

MEDICAL WORLD NEWS

MAY 20, 1960

**POLIO VACCINE:
DEAD OR ALIVE**

**DO DOCTORS WANT
SOCIAL SECURITY?**

**FISHBEIN ON
THE DRUG HEARINGS**

Jacob D. Farris, M.D.
University of Kentucky
Lexington 1, Ky.

Drs. Sabin and Cox

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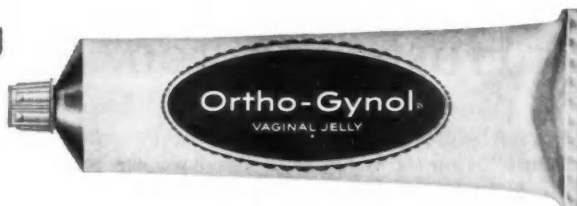
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THE NEWSMAGAZINE OF MEDICINE

MEDICAL WORLD NEWS

MAY 20, 1960

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REFERENCES:

- 1-9. Papers read at Seventh Symposium on Antibiotics, Washington, D. C., November 4-6, 1959.
10. Compiled from clinical reports, Department of Clinical Investigation, Lederle Laboratories, January, 1960.

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performance



genitourinary infection. Roberts, M. S.; Seneca, H., and Lattimer, J. K.,¹ New York, N. Y.—Ninety-one per cent of the Gram-positive and 27 per cent of the Gram-negative, among 66 organisms cultured from genitourinary infection, responded to DECLOMYCIN. Serum antibiotic activity was found three times greater than with tetracycline.

toleration. Boger, W. P., and Gavin, J. J.,² Norristown, Pennsylvania—Side effects with DECLOMYCIN were minimal. When dosage was 0.5 to 1 Gm. daily in divided doses, only two of 82 patients exhibited nausea.

activity level sustentation. Kunin, C. M.; Dornbush, A. C., and Finland, M.,³ Boston, Massachusetts—Of the four tetracycline analogues, DECLOMYCIN Demethylchlor-tetracycline showed the longest sustained activity levels in the blood.

gonococcal infection. Marmell, M., and Prigot, A.,⁴ New York, N. Y.—Of 63 cases of gonorrhea, 61 promptly responded after short courses of DECLOMYCIN.

bronchopulmonary infection. Perry, D. M.; Hall, G. A., and Kirby, W. M. M.,⁵ Seattle, Washington—Of 30 cases of acute bacterial pneumonia, all were afebrile following two to 10 days of treatment with DECLOMYCIN. Results were good in 21.... All of six patients with acute bronchitis responded promptly.

pediatric infection. Fujii, R.; Ichihashi, H.; Minamitani, M.; Konno, M., and Ishibashi, T.,⁶ Tokyo, Japan—In 309 pediatric patients with various infections, DECLOMYCIN was effective in 75 per cent.

pneumonia. Duke, C. J.; Katz, S., and Donohoe, R. F.,⁷ Washington, D. C.—Results were satisfactory in all but two of 32 cases of acute bacterial pneumonia, of which only 11 were uncomplicated. No side effects were observed.

pustular dermatosis. Blau, S., and Kanof, N. B.,⁸ New York, N. Y.—Results with DECLOMYCIN were excellent in both of two cases of impetigo, one of two cases of folliculitis, six of nine cases of furunculosis, all of three cases of acne rosacea and 26 of 45 cases of acne vulgaris. Over-all, results were excellent or good in 85 per cent.

antibacterial spectrum. Finland, M.; Hirsch, H. A., and Kunin, C. M.,⁹ Boston, Massachusetts—DECLOMYCIN Demethylchlor-tetracycline was found the most effective of the tetracycline analogues against two-thirds of 680 normally sensitive strains of 15 separate species.

the over-all picture. Combined results reported by 262 clinical investigators¹⁰—DECLOMYCIN produced a favorable response (cured or improved) in 87 per cent of 2,389 patients. Two-thirds of the patients received one capsule every six hours. Treatment was continued for as long as 180 days, but was between three and eight days in most. Side effects were seen in 10.2 per cent, but necessitated discontinuance of treatment in only 2.1 per cent.

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LATE NEWS

FAST TEST FOR LUPUS ERYTHEMATOSUS

A fast, simple and accurate test for the old diagnostic deceiver, disseminated lupus erythematosus, was announced by three Public Health Service scientists.

The new procedure basically resembles the original test used to pick up rheumatoid arthritis. The method also uses bentonite, a type of colloidal clay, as the key element. But in the new test, desoxyribonucleic acid rather than gamma globulin is used to coat and sensitize the clay particles. When a drop of the patient's serum is added to this mixture, flocculation occurs in a few moments if the diagnosis is positive.

Developers John Bozicevich, Drs. John P. Nasou and Donald E. Kayhoe of the National Institutes of Health, reported that the test has correctly picked out eight positives in a sampling of 146 serums. No false positives were seen. In six patients with frank rheumatoid arthritis, who gave positive reactions for lupus with the older cell test, the flocculation test failed to be fooled.

Unlike the old cell test, the new procedure requires only the patient's serum, not fresh whole blood. Samples can be collected, preserved, and sent from any distance to a testing laboratory. The simplicity of the test makes it possible to screen large numbers of patients.

STEROIDS MAY AFFECT ATHEROSCLEROSIS

New evidence in the case for caution in corticosteroid therapy was presented at the Third Oklahoma Colloquy on Advances in Medicine. Indications are that the steroids may influence the development of atherosclerosis, two Oklahoma University Medical Center scientists said.

Corticosteroid administration can profoundly alter the amount and physical state of blood fats, explained Drs. R. Howard Palmer and Robert H. Furman. Their effect is not the same on all fractions of the blood lipoproteins. Patients with already high blood corticosteroids show increased levels of alpha lipoproteins when placed on steroid regimens. Patients with normal corticosteroid levels show decreased beta lipoprotein when receiving ster-

oids. When patients with elevated low density lipoproteins are put on therapy, the concentration comes down; therapy in patients with subnormal concentrations brings levels up.

BUERGER'S DISEASE NO SEPARATE ENTITY

Thromboangiitis obliterans does not exist as a separate disease entity and probably never did, not even when Buerger first described it.

This is the conclusion of Dr. Stanford Wessler and colleagues of Beth Israel Hospital, Boston. They have completed a clinical study of 84 patients, selected from a series of 1,464 discharged before 1956 with a clinically substantiated diagnosis of peripheral artery obstruction.

All 84 had onset of arterial insufficiency before age 45. The group examined case records, pathological specimens and biopsy material, and concluded:

"Review of our data and a critical examination of published reports have clearly and convincingly indicated that age, sex, ethnic origin, phlebitis, the

clinical absence of heart disease and atherosclerosis, the use of tobacco, the absence of roentgenologically demonstrable peripheral artery calcification, the location of the arterial disease and the finding of second and third stage histologic lesions do not confer any specificity on patients said to have Buerger's disease."

Finally, a study of Buerger's own reports and photomicrographs indicates that Buerger himself "did not at any time publish documented proof" of the existence of the so-called "acute specific arterial lesion."

FOREIGN GRADS MAKE LUKEWARM SHOWING

As expected, foreign medical school graduates made a rather meager showing on the most recent eight-hour qualifying examination in March. A record 6,029 took the test, of whom 3,345 (or 55.5 per cent) passed. This total includes 1,349 (or 21.7 per cent) who got the 70-plus score needed to stay in the U.S. for two more years; and 1,996 (or 32.7 per cent) who scored 75 or above and thus received permanent

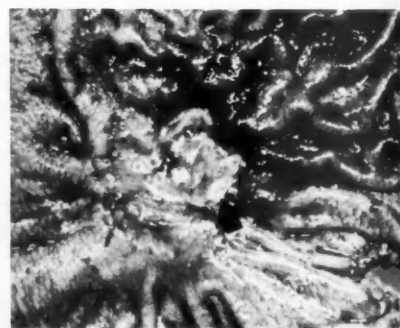
P-32 BALLOON PICKS UP GASTRIC CANCERS

The affinity of gastric cancer for radioactive phosphorus may be something like the moth and the flame—and spell this cancer's demise.

The fact that gastric cancers selectively take to phosphorus-32, in concentrations of 30 to 500 per cent above normal tissue, is the basis of a new diagnostic test for gastric cancer reported Drs. Norman B. Ackerman, Donald B. Shahon, Arthur S. McFee and Owen H. Wangenstein, of the University of Minnesota. The procedure: a condom coated with an elastic latex-base photosensitive emulsion, is swallowed by the patient. Six hours later, the balloon is removed and "developed." The appearance of a darkened area indicates that a segment of the balloon has been in contact with a cancer.

So far the technique has an impressive score. In 76 patients with a variety of gastric conditions, it picked out seven with gastric carcinoma and surgery proved it right. In contrast, x-ray techniques correctly identified six of

the cases (though four required repeated roentgen studies) and missed on the seventh, diagnosing it as a benign gastric ulcer.



EARLY LESION, unsuspected clinically, is revealed by dark area on condom.



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approval as internes or residents in U.S. hospitals.

Those who failed, notes Dr. Dean Smiley of the Educational Council for Foreign Medical Graduates, may accept a six-month hospital appointment beginning July 1 if they signify their intention to take the exam again in September.

MENSTRUATION AND SPORTS STUDIED

Competitive sports and physical training are permissible for many women during menstruation, but generally not sports requiring great endurance, particularly for girls, 15 to 17.

These are some general conclusions from studies of 450 women athletes, described to the American College of Sports Medicine by Dr. Gyula J. C. Erdelyi, gynecologist, of Auburn, Ill.

Among the 450, characteristics of the menstrual cycle did not change in 85 per cent during heavy training and competition, Dr. Erdelyi said. Favorable changes were reported in 5.6 per cent, and unfavorable in 9.3 per cent, particularly in young girls. Such changes should be considered warning signs which could lead to permanent menstrual disorders.

While judgments should be made on individual bases, competition and training in swimming, diving, rowing, tennis, skiing and gymnastics, generally should be avoided during menstruation, Dr. Erdelyi observed.

In performances during menstruation, Dr. Erdelyi found ability was unchanged in 48 per cent, better in 13.4 per cent, and worse than average in 30.7 per cent — mostly in sports like rowing or tennis which require greater prolonged effort.

EXPERTS QUESTION RADIATION DANGERS

Dr. Edward Teller has been quoted as saying that artificial radiation created by man so far is less harmful than carrying an extra ounce of fat. Dr. Linus Pauling has countered that such radiation is 14,000 times more harmful than the excess ounce.

Between these extremes lies the "middle of the road" views of such men as Dr. Robert L. Brent of Jefferson Medical College, Philadelphia.

Said Dr. Brent at the spring meeting of the American Academy of Pediatrics



RADIATION expert Dr. Robert L. Brent

in Atlantic City: "At present, there is no other approach to the problem. It is difficult now to prevent one's emotions from entering a discussion of radiation hazards. Many scientists and laymen have entered the arena of controversy — and argument for argument's sake has not been lacking."

In spite of the apparently authoritative exchange of assertions, not all the facts are in. Unfortunately, the dangers of radiation from the medical use of x-ray and radioisotopes have been clumped together with the dangers of fallout, according to Dr. Brent.

Relatively speaking, medical sources of radiation are a simple problem. We can control the amount and source of radiation, he says. But radiation from the detonation of nuclear weapons is another matter. "Here, pinpointing the mathematical risk of increasing the radioactivity in the atmosphere will not solve our dilemma. The use of nuclear weapons is now only a moral versus a political issue."

"At the present time our concern about the incidence of genetic crippling, leukemia and bone cancer is dwarfed by our concern that the world will not be here to count them or the physician here to treat or cure them."

STAPH HOST-RESISTANCE CONCEPT CHALLENGED

Evidence that man acquires the virulent staphylococcus in much the same manner as he does the tubercle bacillus — chiefly from other active infections — has been reported by Dr. James Burns of Chattanooga, Tenn.

Moreover, the virulent staph appears to comprise a single strain or a few closely related strains. Thus, fighting hospital staph epidemics with stringent antiseptic methods may not be as effective as simply isolating patients and personnel with active staphylococcal infections, the Baroness Erlange Hospital bacteriologist told a meeting of the New York Academy of Sciences.

The Tennessee investigator said that over 50 per cent of 430 staph strains isolated from suppurative lesions, blood, urine and sputum proved positive, using both the coagulase and desoxyribonuclease tests of virulence. Whereas, only 14 per cent of 70 strains cultured from normal skin and hospital air were found positive for both tests.

"Our impression after observing many instances of staphylococci establishing themselves in otherwise healthy hosts is that man has little resistance against the truly virulent strains of these organisms, except for his ability to localize the infection they produce."

DIABETIC MOTHERS SHOW HIGH ABNORMAL BIRTHS

The incidence of abnormalities is significantly higher among infants born of diabetic mothers, according to a long-term study completed by the National Institute of Neurological Diseases and Blindness.

Comparisons of nearly 500 pregnancies in matched groups of diabetic and normal mothers showed that though the absolute number of abnormal infants born to both groups was small, the percentage of abnormalities was eight times as high for the diabetic group. Abnormalities included mental deficiency, congenital malformation, birth injury and epilepsy. Nearly all the congenital malformations could be attributed to embryonic disturbances prior to the tenth week of gestation.

Perinatal mortality was three times higher in the diabetic group than in the normal group. The chief cause of neonatal death was pulmonary hyaline membrane disease. The study, reported in the *Journal of Pediatrics*, was carried out by Drs. Anatole Dakaban and Robert Baird of the NINDB Section on Developmental Neurology.

**TOXEMIA OF PREGNANCY
SIMULATED BY DRUGS**

Animal studies, showing that relatively small doses of 5-hydroxytryptamine and iproniazid can interrupt pregnancy and produce placental hemorrhages, has raised the question whether 5-HT is involved in the pathogenesis of pregnancy toxemia.

According to Drs. Evelyn Poulson, M. Botros and J. M. Robson of Guy's Hospital Medical School, London, England, 5-HT can interrupt pregnancy in mice at all stages but is particularly effective in early and late periods, while iproniazid exerts its action essentially in the first half of pregnancy. Findings are strikingly similar to the changes of the human placenta in toxemia.

**FEW NEUROSES FOUND
IN SCHOOL CHILDREN**

Most "troubled" elementary school children are victims of behavior disorders, or conditions in which they transfer inner troubles to their environment.

This was one of the findings of a survey of 2,609 children in Houston, Texas, described by psychiatrist Irvin A. Kraft, at the Texas Neuropsychiatric Association's annual meeting.

'NEW' VIRUS FOUND IN INDUCED MOUSE MAMMARY TUMORS

Particles of unidentified viruses, not resembling known tumor viruses, have been found in mammary adenocarcinomas developed in mice after inoculation with cell-free filtrate of human tumors.

A significant percentage of mice develop tumors when inoculated; the most common type is mammary adenocarcinoma.

Dr. J. G. Strawitz of Roswell Park Memorial Institute, Buffalo, N. Y., says particles were not found in the tumors from which the filtrate was produced or in the filtrate itself. The viruses, discovered by electron microscopy, are not the SE polyoma agent because they are larger and do not invade cell nuclei; nor do they resemble the particles found in Bittner milk-factor tumors.

Three possible mechanisms may be involved, Dr. Strawitz speculates: a virus in the human tumor, a latent virus in the newborn mouse activated

Only about 3 per cent of the children surveyed could be classed as psychoneurotic, while 38-59 per cent of the troubled children had behavior disorders. Manifestations included difficulties with reading, spelling and arithmetic (65 per cent); inattention, dawdling, disobedience and fighting.

**THYMUS FACTOR MAY
AFFECT LEUKEMIA**

The possibility that there is a non-cellular thymus factor which affects leukemia has been suggested.

When exposed to lymphatic leukemia-A virus, thymectomized mice frequently develop myelogenous leukemia instead, Dr. Ludwik Gross of the Bronx (N.Y.) VA Hospital found. Thus perhaps the thymus "acts as a sort of dam to keep the virus from flooding into the bloodstream."

Furthermore, intact newborn mice inoculated with extracts of myelogenous form develop lymphatic leukemia. Most important, subcutaneous implants of thymus from healthy mice into virus-inoculated, thymectomized mice cause the myelogenous leukemia to revert to lymphatic form.

**ENERGY SUBSTANCE FOUND
IN HUMAN PLACENTA**

An estrogen-catalyst mechanism in female growth has been suggested by

Dr. Claude A. Villee and associates, of Harvard Medical School.

The group found that the placenta contains two breakdown products of nucleic acid and a specific enzyme; when stimulated by estrogens, this transfers hydrogen from one nucleotide to the other, thus releasing energy-rich phosphates.

The enzyme is found in all female tissues where reproductive growth takes place, such as the mammary gland, endometrium and pituitary. The Harvard group is now testing substances which might inhibit the enzyme and thus be potentially useful in halting the growth of tumors in mammary tissue.

**BACTERIAL SHOCK:
NO OBSTETRIC RARITY**

Thanks largely to "overuse and outright abuse" of favorite antibiotics, especially in treating gram-negative infections with penicillin, bacterial shock is no rarity in obstetrical wards, according to Dr. Keith P. Russell.

During a recent two-year period, Dr. Russell reports, 6,787 abortions of all types were treated at the Los Angeles County Hospital. Bacterial shock caused 21 deaths.

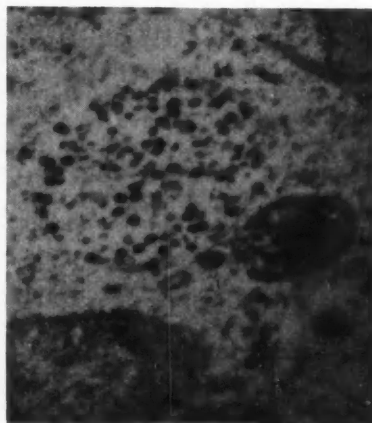
As a result, a four-part regimen routinely goes into effect following diagnosis of septic abortion: 1) immediate and rapid infusion of chloramphenicol; 2) evacuation of the uterus as early as possible; 3) parenteral hydrocortisone at the first sign of hypotension; and 4) avoidance of vasopressors.

**CERVICAL CONIZATIONS
CALLED SAFE, USEFUL**

When Temple University's Dr. Clayton T. Beecham reported to the American College of Obstetrics and Gynecology on a series of cervical conizations performed during pregnancy, his audience raised the traditional objections to the procedure.

His answers to them were based on the outcome of 26 conizations performed over a two-year period, following suspicious or positive cytologic smears. He reported not a single pregnancy interrupted, not an infant lost. Premature labor rate was not above that of a general clinic population. Bleeding, the most serious complication, varied, but "in no instance did it become critical."

The biopsies showed two invasive malignancies, 14 carcinomas *in situ*, and eight cases of anaplasia.



ELECTRON micrograph reveals mouse cancer induced by human tumor filtrate.

by some substance in the filtrate, or a variant of the Bittner virus may cause the tumors. Various biological and virological studies are underway to explore these possibilities.

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A LETTER FROM THE PUBLISHER

Forgive me this platitude, but it is people who make a magazine. That is why I feel so fortunate in being surrounded by an Editorial Advisory Board consisting of some of the most prominent men in medicine today. Let me tell you a little about them.

Dr. Morris Fishbein serves as our guide and mentor. He is indispensable in helping shape the concepts of this magazine. Famed for many years as editor of the *Journal of the American Medical Association*, he is internationally known as a leading medical editor and writer.

Both Drs. Irvine Page and Frank Horsfall worked at the Rockefeller Institute in the '30's. Dr. Page later became director of the Lilly Laboratories for Clinical Research, and is currently director of research at the Cleveland Clinic Foundation.

Dr. Horsfall remained at the Rockefeller Institute, where he was vice president for clinical studies and physician in chief to the hospital of the Institute. This year, Dr. Horsfall became president and director of the Sloan-Kettering Institute for Cancer Research.

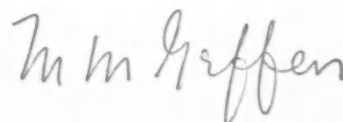
Two of our Advisory Board members are long-time newspaper editors. Dr. Theodore Van Dellen has been for many years medical editor and director of the *Chicago Tribune-New York News* syndicate, and is currently editor of the *Illinois Medical Journal* and president-elect of the Chicago Medical Society.

Dr. Howard Rusk is an associate editor of *The New York Times* and the director of the Institute of Physical Medicine and Rehabilitation of the New York University Medical Center. Dr. Rusk was the wartime originator and director of the revolutionary AAF Convalescent-Rehabilitation Training program.

Another distinguished member of our Advisory Board is Dr. Chester Keefer, director of the Boston University Massachusetts Memorial Hospital Medical Center, and president of the American College of Physicians. During World War II, Dr. Keefer was chairman of the Committee of the National Research Council, which was responsible for civilian allocation of penicillin.

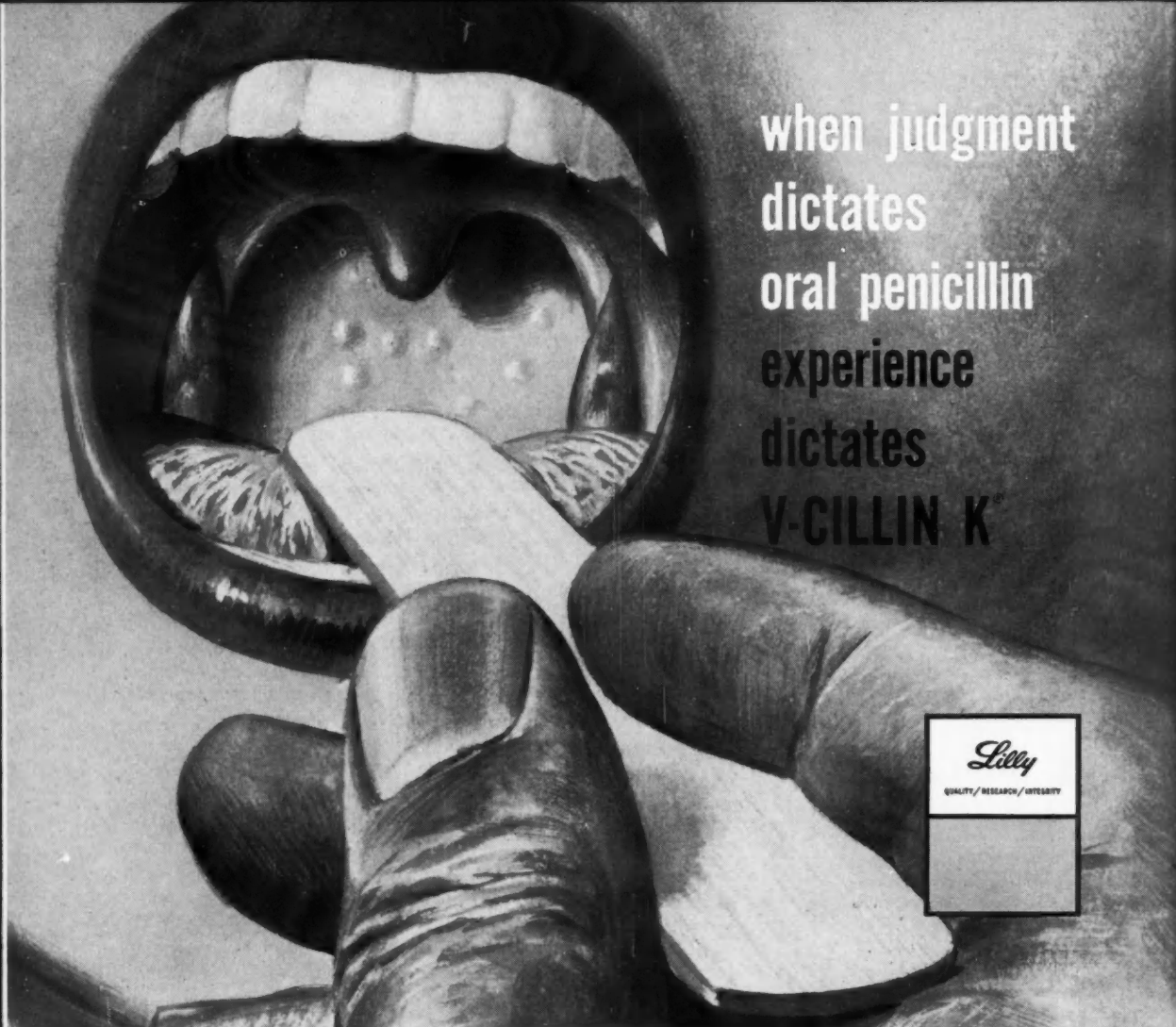
Interestingly enough, Dr. Harold Diehl began his professional career not as a physician but as an instructor of mathematics. Turning to medicine in 1916, Dr. Diehl went to the University of Minnesota as a teaching assistant in bacteriology and pathology. He left in 1957, after having served for 22 years as dean of the Medical Sciences and professor of Preventive Medicine and Public Health. Today, he is one of the senior officers of the American Cancer Society.

From time to time in future letters, I hope to tell you a great deal more about the members of our Board and try to give you an intimate picture of the contributions each has made to the sum total of medical knowledge. But I sincerely hope that you won't let this column be a one-way affair. Please write me about your ideas—and particularly about your reactions to MEDICAL WORLD NEWS. Your comments will be especially helpful, and I assure you that each one will be carefully considered and warmly welcomed.



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1. Griffith, R. S.: Comparison of Antibiotic Activity in Sera Following the Administration of Three Different Penicillins, *Antibiotic Med. & Clin. Therapy*, 7: No. 2 (February), 1960.

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May 2

OUTLOOK

- National Epilepsy League to fill prescriptions
 - Government to evaluate hypertension therapies
-

AMA tactics on the Forand bill are shifting. Contrary to news reports that the AMA is seeking to work out a compromise with labor, it is in fact going to become more militant, and will try to hang a "union-made" label on the Forand-type legislation. Opening shot in the new campaign was fired in Atlantic City by AMA Chicago office chief Dr. F. J. L. Blasingame. He charges that "the Walter Reuthers of this country are now seeking to stampede Congress into hasty and dangerous legislation. And no technique of propaganda has eluded them, from outright intimidation to the made-in-Detroit snow job."

Union leaders, he adds, "have callously played on the fears of the aged, and cynically manipulated the decent human concern of the public for the health care of the aged. And to those who have opposed them, and opposed Forand-type legislation, they have answered reasonable argument with name calling."

The high cost of epilepsy has led the National Epilepsy League to announce that it will fill members' prescriptions by mail at cost—25 per cent below regular prices. Registered pharmacists in the League's headquarters at 208 North Wells St., Chicago, will fill orders written by members' own physicians. Membership fee: \$1.

Senator Kefauver (D-Tenn.) will keep riding the drug industry investigation into June, and may be plotting to wind up just in time for the last minute rush towards congressional adjournment—at which point he hopes to jam through corrective legislation. As the Washington weather warms up, so may the hearings. Still to be discussed are antibiotics, vitamins, and the role of government agencies including the FDA—a subject expected to produce some pre-Fourth of July fireworks.

The first line of attack against rheumatic fever should be the development of method for identifying streptococcal infections—one within reach of the general practitioner. So reports the American Heart Association's ad hoc Committee on Needs and Goals of the Council on Rheumatic Fever and Congenital Heart Diseases. Adequate diagnosis and treatment of streptococcal infections has lagged "to a surprising degree" and will need to be emphasized, the Committee says.

CONTINUED

Effectiveness of antihypertension drugs is about to be evaluated by the Public Health Service. To start, comparative studies of various rauwolfia drugs, chlorothiazide (*Diuril*, Merck) and chlorisondamine (*Ecolid*, Ciba) will be made in PHS hospitals—in San Francisco, New Orleans, Baltimore, Norfolk and New York City. Later, other individual hospitals will be used to evaluate experimental drugs.

Two simultaneous announcements indicate a promising future for the medical care of the West Coast's retired and aged. A nonprofit organization, initiated by the Palo Alto (Calif.) Medical Research Foundation, plans to build a \$6 million, ten-story apartment structure with lifetime lease arrangements for the retired and with medical care provided under a contract with the Palo Alto Medical Clinic.

And, before the end of May ground will be broken for a similar \$3 million development in the Portola valley near Palo Alto. Sponsored by the Presbyterian Church, this project also will contract with the Palo Alto Medical Clinic for service. Applicants for both projects will probably be offered a plan similar to those used by several existing "retiree" developments on the Coast—a monthly fee will cover rent, food, laundry, maid service (in some cases) and medical care.

The drug industry will spend more than \$200 million this year in research and development, with nine houses spending more than half the total. The nine: Abbott, Bristol-Myers, Lilly, Merck, Parke Davis, Pfizer, Schering, Smith Kline & French and Upjohn.

MEETINGS

May 24-28	American College of Cardiology, Indianapolis	June 9-12	Am. Medical Womens' Assn., Miami
May 30- June 1	American Gynecological Society, Williamsburg, Va.	June 8-12	Am. Rheumatism Assoc., Annual, Hollywood, Fla.
May 30- June 2	American Orthopaedic Society, Hot Springs, Va.	June 10-12	Am. Electroencephalographic Society, West Harwich, Mass.
May 30- June 3	Asian-Pacific Congress of Cardiology, Melbourne, Australia	June 10-12	Am. College of Angiology, Miami
June 3-8	Pan-American Medical Women's Alliance, San Juan, Puerto Rico	June 11	Am. Academy of Tuberculosis Physicians, Miami
June 6-10	Int'l Conf. on Live Poliovirus Vaccines, Wash., D. C.	UPCOMING	
June 6-8	Canadian Federation of Biological Societies, Winnipeg	June 13-17	AMA Annual Meeting, Miami
June 8-12	Am. College of Chest Physicians, Miami	Aug. 21-28	Amer. Congress of Physical Med. & Rehab., Wash., D. C.
June 9-10	American Geriatrics Society, Miami	Oct. 10-14	American College of Surgeons, San Francisco
June 9-11	Endocrine Society, Miami	Oct. 21-25	American Heart Association, St. Louis
		Oct. 31- Nov. 4	American Public Health Association, San Francisco

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NOW—for more comprehensive control of

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- pain due to or associated with
- spasm of skeletal muscle

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ROBAXISAL, a new dual-acting muscle relaxant-analgesic, effectively treats both skeletal muscle spasm and severe pain due to or associated with the spasm. Each Tablet contains:

- A relaxant component—Robaxin[®]—widely recognized for its prompt, long-lasting relief of painful skeletal muscle spasm, with unusual freedom from undesired side effects. 400 mg.
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- An analgesic component—aspirin—whose pain-relieving effect is markedly enhanced by Robaxin, and which has added value as an anti-inflammatory and anti-rheumatic agent. . . . (5 gr.) 325 mg.

INDICATIONS: ROBAXISAL is indicated when analgesic as well as relaxant action is desired in the treatment of skeletal muscle spasm and severe concurrent pain. Typical conditions are disorders of the back, whiplash and other traumatic injuries, myositis, and pain and spasm associated with arthritis.

SUPPLY: ROBAXISAL Tablets (pink-and-white, laminated) in bottles of 100 and 500.

Also available: ROBAXIN Injectable, 1.0 Gm. in 10-cc ampul. ROBAXIN Tablets, 0.5 Gm. (white, scored) in bottles of 50 and 500.

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A TIME TO WAIT, A TIME TO OPERATE

At the American Academy of Pediatrics, a leading surgeon questions haste in using open-heart procedures on infants

An indictment of frequently ill-advised or unnecessary open-heart surgery on children was voiced at the spring meeting of the American Academy of Pediatrics by one of the country's leading heart surgeons.

In what he termed a *mea culpa* of the surgical profession, Dr. Robert P. Glover, director and chief of thoracic and cardiovascular research and surgery at Philadelphia's Presbyterian Hospital, denounced the excess enthusiasm for the relatively new heart-lung machine that takes over the job of pumping blood during open heart surgery:

"I believe that a lot of lambs have been led to slaughter in testing the

heart-lung machine, particularly in the treatment of Roger's disease (a small ventricular septal defect, asymptomatic) when the patients probably would have lived without surgery anyway."

A TIME TO OPERATE

Dr. Glover, participating in a panel—"the time to operate on a patient with congenital heart disease"—in Atlantic City, was greeted by strong applause.

"The ordinary child suffering from ventricular septal defects has a good prognosis for, say, five years at least," Dr. Glover stated. "In five years, our techniques will grow far superior, and

the child could have the benefit of them if pediatricians were not in a hurry to send him to the surgeon."

His opinion was seconded by Dr. Daniel F. Downing, professor of pediatrics at the Hahnemann Medical College and Hospital, Philadelphia, moderator of the panel.

"There is no question," declared Dr. Downing, "that hundreds of children with ventricular septal defects have died, who had no business being operated upon, and who otherwise would be still living today."

DIAGNOSIS DIFFICULT

The six-man panel, chaired by Dr. George M. Wheatley, vice president of the AAP, also included Dr. Sidney Friedman, assistant professor of pediatrics at the University of Pennsylvania School of Medicine; Dr. Henry A. Kane, pediatrics instructor at Jefferson Medical College; and Dr. G. C. Robert Wells, assistant professor of pediatrics at Temple University School of Medicine, all of Philadelphia.

Generally, they agreed that patent ductus is one of the most common congenital heart disease types (if not the most important) striking some 15 per cent of patients in pediatric cardiac clinics.

The first difficulty with the disease, Dr. Kane pointed out, is in the diagnosis, since the patients often are asymptomatic, or simply show fatigue or lack of weight. Infants affected with patent ductus are usually acyanotic, and many of them do not demonstrate the



DR. GLOVER criticizes overenthusiasm in testing heart-lung machines.

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characteristic loud, continuous murmur until they are about age two.

The diagnosis, nevertheless, can usually be made on clinical basis, by observation of the murmur, increase in pulmonary vascularity, or left ventricular or left atrial enlargement.

SURGERY—BUT WHEN?

While the panel felt that treatment should be surgical, there was some debate as to when surgery should be performed.

The optimum time in the case of a large ductus, Dr. Wells held, is immediately after diagnosis; for an average ductus, after two years, to give time for spontaneous closing. Dr. Friedman maintained that surgery should be delayed to age two, three or four.

When the child suffers coarctation of the aorta, according to Dr. Friedman, the optimum age for surgery is eight to ten years of age, give or take one or two years either way, so that the aorta is large enough not to reform a coarctation after resuture. Collateral blood circulation is sufficiently developed at that age. Waiting until 12 or 14 years might be hazardous because arteriosclerotic changes begin to occur.

"However, if one knows a graft will be needed," Dr. Friedman said, "it might be advisable to wait until adulthood."

If not operated, Dr. Glover countered, a child with coarctation becomes worse. "In the child, the aorta is beautifully elastic, but this becomes lost with age." In babies, he said, a graft may be needed, while the adult type can almost always be treated by resection and anastomosis, and grafting is almost never necessary."

'COMPANION' DEFECTS

Another congenital heart condition to come under the panel's scalpel was tetralogy of Fallot—called a misnomer by Dr. Wells, because while the ventricular septal defect and pulmonic stenosis are the primary defects, the right ventricular hypertrophy and dextrotransposed aorta are merely "companion" or resultant ones.

The various categories and degrees of the disease prevented panelists from setting any rules; each case must be considered individually.

"Generally, very little can be offered in the early months of life," Dr. Wells pointed out. "Open heart is out of the question, and the Potts or Blalock-Taussig anastomoses are difficult.

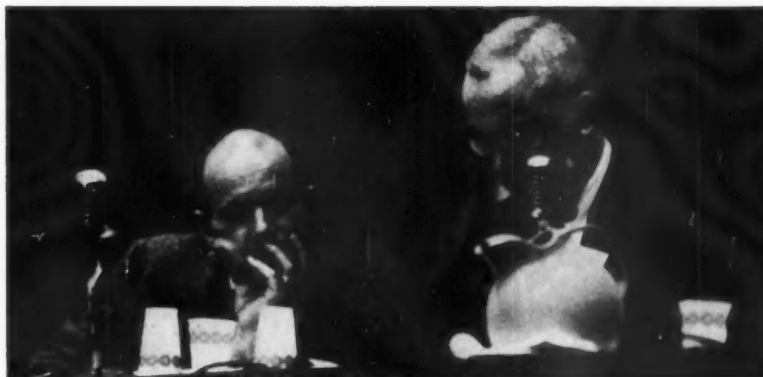
"One tries to wait as long as one can. The time to operate is when you have to."

In classical tetralogy, "we ought to maintain the patient medically as long as we can. If the patient is under ten, I would suggest a shunt procedure because it has quite good results and can give him 10, 15 and 20 years, when the patient can have another operation. A shunt procedure can be done at over two years of age."

(The Blalock-Taussig procedure is a subclavian artery anastomosis to the pulmonary artery; Potts procedure is a side-to-side aorta-to-pulmonary anas-

tomosis; and the Brock operation is an opening of the valve with a punch-like instrument or similar removal of an obstruction. "One of the problems," Dr. Glover warned, "is not to take out too much.")

When it came to the tetralogy, special cases appeared to be more the rule than the exception. The severity of the defect, the age of the patient, blood pressure, cyanosis, all come in to individualize the case and prevent generalizations. "The decision," Dr. Wells emphasized, "must come from the weighing of the risk of the procedure against the gain to the patient." ■



INFANT MORTALITY is evaluated by panelists James Arey and George Fetterman.

'ADDED INSULT' TRIGGERS BAD GENES

Recent studies of congenital malformations, which account for 15 per cent of all newborn infant deaths and untold misery for many who live, may soon do away with the approach that "inherited defects are God's will and nothing can be done to prevent them."

Dr. Stuart S. Stevenson, professor of pediatrics at Seton Hall College of Medicine and Dentistry, Jersey City, N. J. says newest theories hold that while there may be a defective gene, it often does not express itself without some sort of added insult.

Also, it is often not known whether the gene is damaged in the fetus or simply inherited from the parents.

KILLERS OF INFANTS

"Some 20 or 30 years ago, congenital malformations accounted for only one per cent of newborn deaths," says Dr. Stevenson. "Today, as many other causes have come under control, congenital defects as a killer ranks second only to prematurity, which accounts

for half of all newborn deaths."

Research by several medical centers, notably the Harvard School of Public Health, shows that many congenital anomalies may be triggered by viral or bacterial infections in the mother. For instance, the large incidence of babies born with anomalies during the October to March period—the respiratory disease months—is among the strongest evidence supporting the "added insult" theory.

While strides have been made in surgical treatment of many malformations, there is little that can be done to correct congenital defects of the central nervous system, Dr. Stevenson pointed out. Thus, research is more and more being aimed at finding out and eliminating the environmental mechanism that may be responsible for triggering the "bad gene" into producing a defect.

Dr. Stevenson was chairman of the panel on "What Kills Newborn Infants," during the Academy of Pediatrics session.

SHARPER FOCUS ON ARTERIES

Percutaneous arterial catheterization, a new technique, aids renal arteriography, left angiography, and a wide range of other major diagnostic studies

A more accurate and effective method for visualizing the aorta, arterial tree and renal circulation has been used successfully in 40 patients at the University of Minnesota Hospitals, Minneapolis.

According to developer Kurt Amplatz of the Hospitals' radiology department, percutaneous arterial catheterization offers precise placement of puncture needle and catheter, and eliminates several other drawbacks of the intravenous method. It is especially useful in renal arteriography and has been effective for left angiocardiology. It has diagnostic uses in mitral surgery, urology, neuro-radiology, cardiology and peripheral angiography.

Major objection to the intravenous method, Dr. Amplatz points out, is that the contrast medium must travel from the right side of the heart

through the pulmonary circulation and into the left heart, causing considerable dilution. This prevents satisfactory outlining of smaller peripheral arteries. Direct needle puncture, on the other hand, is difficult to place correctly and may lead to local complications, according to the Minneapolis radiologist.

With the new method, use of fluoroscopic control and small test injections allow the physician to "position and reposition the catheter, or even introduce it selectively into a specific arterial branch."

Step-by-step, this is the method involved:

A 3 mm nick is made in the skin with a No. 11 knife. A 2 cc syringe filled with physiological saline solution is then attached to a wide lumen, 18 gauge double puncture needle. The needle is passed through the skin, subcutaneous tissue and fascia. An effort is made to feel the pulsating artery with the needle tip. The artery is then punctured obliquely to aid hemostasis after withdrawal of the catheter. When the pulsating arterial wall is found, it is slowly pierced until a pulsating stream of blood in the attached syringe shows the intra-arterial position of the needle tip.

With this technique, it has become possible to obtain roentgenographic visualization of the iliac arteries, Dr. Amplatz states. Some cases of peripheral occlusive disease were associated with a severe narrowing or even thrombosis of the iliac arteries which would not have been found by femoral arteriography alone. "The femoral arteriogram confirmed the clinical diagnosis of the peripheral block of the femoral artery; moreover, the contrast visualization of the iliac arteries via catheter demonstrated an additional block of the iliac with well-developed collateral arteries from the inferior mesenteric artery. This additional block had not been suspected clinically."

The Minnesota researcher and his

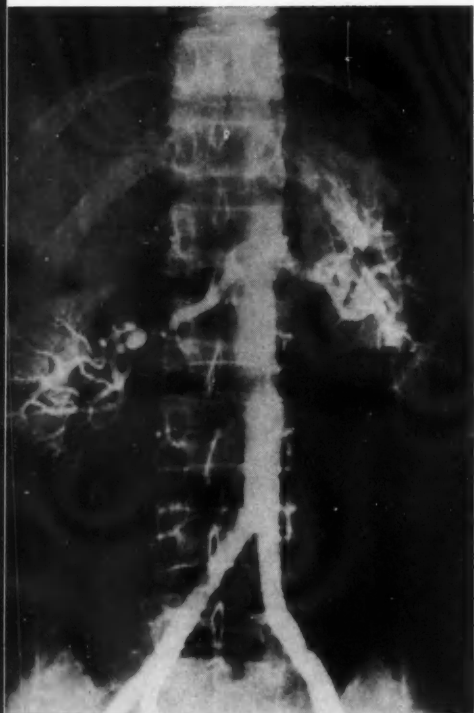
colleagues based the technique on the method of S. I. Seldinger. They reduced the dimensions of the Seldinger puncture needle — whose large size made it difficult, in their experience, to place into the femoral artery. They also built a simple power injector, which uses carbon dioxide cartridges as a cheap power source, to shoot the contrast medium through the relatively small catheter.



BLOCK of left iliac artery is seen, with sharply developed mesenteric collaterals.

Regarding complications with the new technique Dr. Amplatz, in a report in the *University of Minnesota Medical Bulletin*, points out that moderate-sized hematomas may develop in older persons with hypertension and sclerotic vessels. Although most of the patients seen were in their seventies and had suspected occlusive arterial disease, small-sized hematomas developed in only two of them. There were several instances of complications: one young patient who was fully heparinized developed a moderate-sized hematoma; in another instance, a decreased radial pulse followed catheterization of the brachial artery. Concludes the Minnesota investigator:

"Although most of our patients had poorly functioning arteries, no serious complications have occurred."



RING catheter is used with new technique for crisp view of renal arteries.

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LD NEWS



DURING INTERMISSION, pediatricians quiz Dr. Jonas Salk on potency of new vaccines and proposed multiple killed-virus vaccine.

POLIO VACCINE: DEAD OR ALIVE

The merits of killed vs. attenuated vaccines are debated by "polio greats," as government scientists warn that the virus may be radically changing its tactics

"Polio Greats Battle It Out on New Jersey Soil." This was the headline of a newspaper covering the 1960 Symposium on Polio Vaccine called by the Academy of Medicine of New Jersey and the National Foundation. Though the story got out of hand—reporting Dr. Jonas Salk as an on-the-spot contestant in Newark while actually he was 110 miles south in Atlantic City—it did catch a tone of contention which has characterized the polio vaccine field since the Salk trials in 1954.

Prophetically, early in 1955, Dr. Jonas Salk wrote:

"Whatever the final analysis shows, the type of vaccine that is being tested will continue to be an issue among virologists—because an immunological principle is under test as well as a vaccine."

It is this principle, in part, which provides supporters of live-virus polio vaccine with ammunition to challenge Salk. Led by University of Cincinnati's Dr. Albert Sabin, they maintain that no human virus disease has yet been brought under control by a killed-virus preparation. Moreover, even if a 100 per cent effective Salk vaccine were available, it would still be difficult to

reach a large part of the American population, and it would have little or no effect on the continuing dissemination of paralytogenic polioviruses in the community.

It is this principle which confronts government experts trying to make a decision about licensing live-virus vaccine.

And it is this principle which the "polio greats" debated in New Jersey.

Lead-off speaker Dr. E. Russell Alexander, 32-year-old chief of the United States Public Health Surveillance Section in Atlanta, Ga., began simply:

"... our failure in this country to achieve adequate control of poliomyelitis is due to our failure to achieve adequate utilization of the Salk vaccine, rather than failure of the vaccine itself."

High USPHS officials have said this before. But Dr. Alexander added that a radical change has taken place in the pattern of polio, perhaps because of a basic shift in the ecology of polio-virus.

Before 1956, he explained, attack rates in epidemics tended to be re-



CONTINUED

DR. SALK stops to talk to polio victim.



INVESTIGATORS David Bodian and Joseph L. Melnick are key symposium speakers.

POLIO VACCINE CONTINUED

markedly uniform. Polio spread over large contiguous areas irrespective of race, political boundaries or socioeconomic class—except for some discrimination against the upper economic groups, where incidence was higher.

In 1959, however, a marked reversal appeared. Except in Massachusetts, the pattern of epidemics was strikingly consistent. Sharp outbreaks occurred in delimited areas. The upper classes were spared. The lower classes took the brunt. Highest rates of all developed among Negroes — 6 to 15 times over the rate among whites.

Despite this ominous turn, the Surveillance Unit's records showed that the Salk vaccine was even more effective than had been predicted from the 1954 field trial. Of the total 5,267 paralytic cases reported in 1959, almost two-thirds were unvaccinated; 14.2 per cent had received three doses; and 3.4 per cent had received four or more doses. This last group, said Dr. Alexander, must be classified as "vaccine failures."

A high proportion of the "vaccine failures" occurred in the 1959 Massachusetts epidemic which differed uniquely from any epidemic on record. Of 157 cases, 137 were paralytic. A high proportion of the paralytic cases had received three or more doses of Salk vaccine.

"It is possible that through a strange coincidence Massachusetts may have received, in 1956 and 1957, an unusual amount of lower-potency vaccine to the Type III component which was

identified among 51 of 56 isolations from patients," he said.

Evidence elsewhere across the nation, Dr. Alexander warned, supports the belief that some of the variation in protection seen in vaccinated groups results from the variation in potency of the vaccine as it comes to market.

As if in answer to Dr. Alexander's complaint, Dr. Maurice R. Hilleman of Merck Sharp & Dohme Research Laboratories announced development of a uniformly potent Salk vaccine which gives protection against three types of poliovirus—with two instead of three, or more, shots.

Dr. Hilleman, working with Drs. Jesse Charney and Alfred Tytell, has developed a new method of purifying the virus from the monkey kidney tissue culture fluids, and producing highly concentrated, practically pure virus material which can be diluted to a uniformly potent vaccine.

IMPROVED SALK VACCINE

Merck has a licensing application on file in Washington and expects to have some 100,000 injections ready by this summer's polio season. The new vaccine will be named *Privax*, and will be given in 0.5 cc doses rather than the standard 1 cc injections.

Increased killed-virus vaccine potency, however, was not the solution for live-virus advocates. As spokesman Sabin put it:

"The question now under discussion in the United States is whether any live-virus vaccine has been proved safe for those who receive it as well as for those who may become immunized by contact infection, and whether such

vaccines are sufficiently immunogenic to warrant their use in an attempt to eliminate the disease as well as the viruses that cause it."

According to Dr. Sabin the answers are now in. From millions of oral vaccinations in a score of foreign countries, he maintains, there is enough evidence to show that paralytic polio, as well as paralytogenic viruses, can be eliminated in all susceptible age groups.

"The question now remains," Dr. Sabin declared, "whether the health authorities and physicians of the United States are ready to take the necessary steps for an attempted elimination of poliomyelitis from the country before the summer of 1961 or, whether the country will continue to pay the current high price for only partial prevention of the paralytic disease."

Dr. Herald A. Cox of Lederle Laboratories agreed. But he maintained that his own vaccine—which requires only a single dose rather than Sabin's which requires three separate doses one month apart—is the answer.

Obviously, a single-dose vaccine simplifies oral vaccination procedures and would greatly simplify mass immunization programs, Dr. Cox emphasized. The Lederle investigator also reported that recent studies on 1,416 persons showed that response rates to his single-dose vaccine were comparable to—or slightly better than—those obtained when each strain was fed separately at 30-day intervals.

50 PER CENT EFFECTIVE

Dr. Joseph Melnick of Baylor University pointed out, however, that his studies suggest that live-virus vaccines—whether in single or multiple doses—may immunize only 50 per cent of individuals who receive it, because of interference from other enterovirus infections.

Cautioning on the danger of genetic instability of attenuated poliovirus as it undergoes multiplication cycles in vaccinated children and their contacts, Dr. Melnick declared, "we wish to emphasize that the risks appear to be greater than had been suspected." Much more knowledge of how, and if, viruses alter in persons living under different macroclimatic and microclimatic conditions is needed before the long-range course of the attenuated strains can be mapped. "If caution was called for in 1954 and 1955 when the Salk vaccine was introduced into large-scale field use, then caution should also

be the watchword now."

David Bodian of Johns Hopkins University asserted that present oral vaccines have not yet been proved either safe or effective. He said that the fact that millions of persons have swallowed weakened live viruses and none have come down with polio is "reassuring," but is not proof of their safety or their effectiveness.

Dr. Bodian pointed out that attempts to evaluate uncontrolled studies will remain disturbing and complex.

Speaking for the U.S. Public Health Service's Division of Biologic Standards, which ultimately must decide the issue, director Dr. Roderick Murray declared: "No company has yet filed a complete application with all the required data needed for licensing a live-virus vaccine."

SALK SPEAKS OUT

Still needed, he added, is information about: 1) the significance of the changes noted in neurovirulence of strains isolated after successive human passages; 2) the effectiveness of the vaccines; and 3) firm dosage recommendations, including the optimal mode of administration of the three types of poliovirus.

Dr. Murray added that every effort is being made to obtain this missing information to permit the government to establish appropriate regulations that might lead to the possibility of Federal licensing.

Speaking for himself and his vac-

cine, Dr. Jonas Salk declared in Atlantic City at the spring meeting of the American Academy of Pediatrics, "the expectation of some that a killed-virus vaccine for polio was merely a stage on the way toward the ultimate development of a live-virus vaccine appears to have reflected an underestimation of the potentialities of killed-viral antigens.

"There isn't any question that a killed-virus vaccine could be promptly and consistently effective after one dose and for all three types of poliovirus if the antigen content were adequate. This, the basic problem, is now evident and so are the indications for its solution."

The 1959 epidemic experience made it painfully clear, Dr. Salk added, that the extent to which polio is diminished is determined both by the potency of the vaccine and the number of injections given. The greater the potency, the fewer the injections required.

The indications are that the potency of the vaccine that has been in general use in the United States has been only 50-60 per cent effective after one dose.

Vaccines of greater potency are becoming commercially available, and, according to Dr. Salk, "perfection is attainable. A killed-virus vaccine can be made 99 per cent effective with one dose which would be equally safe."

In Dr. Salk's opinion two basic facts are now established: 1) a killed-virus will immunize and; 2) entirely safe

vaccines can be prepared from viruses of all degrees of virulence. The result: "It now appears likely that a multiple killed viral antigen preparation encompassing many of the viral pathogens for man may soon be realized."

Although Dr. Salk is confident that killed vaccines have a promising future, the supporters of live-virus vaccines remain equally confident that the future lies with them, and that time will prove theirs the only means of wiping out both polio and the viruses that cause it. Drs. Sabin and Cox intend to confront the government with evidence now being accumulated to hasten a decision on licensing for general use in 1961.

The Cox vaccine is now under extensive trial in Miami and Minnesota. By the end of May, some 350,000 residents of the greater Miami metropolitan area will have been given the single oral dose of trivalent vaccine. Thus far, antibody studies reveal titers up 94 per cent.

U. S. TRIALS

Last March, Minnesota launched a double-blind test involving 254,000 individuals—125,000 receiving the vaccine, the other half placebos. The test is expected to be completed by the end of this month, but no date has been set for the breaking of the code.

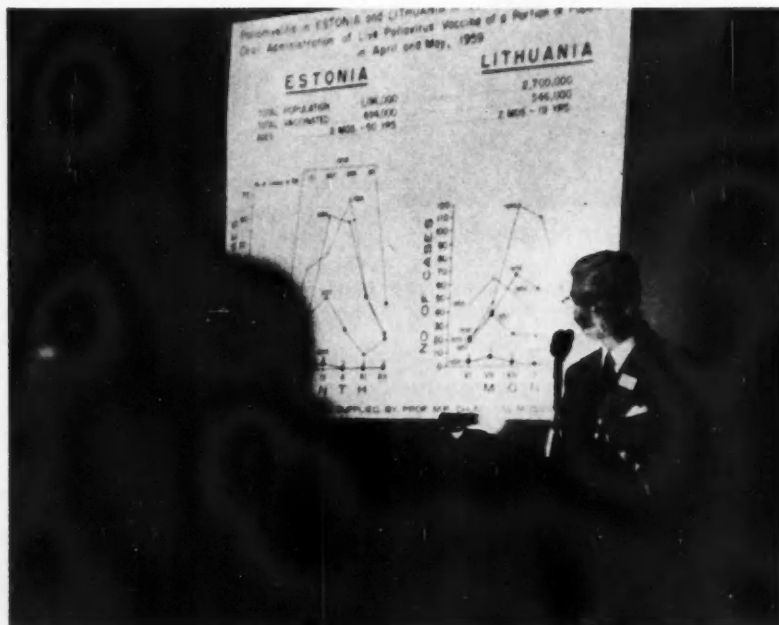
In mid-April, the Poliomyelitis Study Unit at Yale University reported passing the half-way mark in a controlled trial of Sabin vaccine on 357 children. The aim of this study is to provide precise information about optimum doses and schedules of administration.

On April 25, Cincinnati began the first mass test conducted in the U. S. on the Sabin vaccine involving an estimated 60,000 preschool age children. This study is designed to answer questions about the type of intestinal flora found in different socio-economic groups and the effect other enteroviruses have on the vaccine.

And finally this past week, a team of U. S. experts including Dr. Sabin was dispatched to Moscow by Surgeon General Burney to go over evidence on the effectiveness of Sabin's vaccine used on some 50 million Russians.

Still to come: In June the 2nd International Conference on Live Poliovirus Vaccines, in Washington, D. C.; in mid-July, the International Poliomyelitis Conference in Copenhagen—and then this country's heavy summer-time incidence of polio. ■

DR. ALBERT SABIN reports on oral vaccine tests completed in East Europe.



RX FOR EXERCISE

Some form of sports is prescribed as helpful for a range of cardiac conditions, and healthy men are found almost never too old for tennis

Doctors one day may consult a "pharmacopoeia of exercise" to treat heart ailments arising from our present slothful, gadget-dependent society.

Dr. Louis F. Bishop, New York cardiologist, spelled out just such a beginning toward general exercise prescriptions for heart patients, at the annual meeting in Miami of the American College of Sports Medicine.

"There is no cardiovascular condition where some form of exercise is not helpful," Dr. Bishop, a past-president, told the College. His audience of physicians and physiologists—with a sprinkling of nutritionists, coaches, trainers and other specialists—shared a mutual interest in exercise to promote general health and longevity.

Today, medical opinion is no longer unanimous that rest is the only beneficial treatment for heart patients. But, Dr. Bishop stressed, "we must prescribe exercise as carefully and as methodically as we prescribe drugs."

IN MANY CONDITIONS

With primary regard for individual needs, he offered these general pharmacopoeic rules in heart cases:

Angina: While positive proof is lacking, "the impression is that the patient taking regular exercise is less liable to develop myocardial infarction." Angina rarely occurs during occupational hours; patients curiously may feel pain only at the first hole in golf, and none thereafter.

Hypertension: In absence of complications, the exercise prescription generally "is an unrestricted one." Exercise certainly benefits patients having strong underlying emotional problems. Some question remains whether sudden severe exertion elevates blood pressure to cause cerebral accidents.

Myocardial infarction: Both patients' and doctors' fears may lead to overcautiousness, and "patients do bet-

ter if allowed at least some activity, almost from the beginning, following an attack." Mild competitive games are recommended over calisthenics, Dr. Bishop says, admitting a bias against calisthenics from his own Army days.

Congestive heart failure: It introduces many variable factors, but his own opinion is that some forms of mild exercise can have distinct value.

Rheumatic heart disease: Patients should be forbidden vigorous sports involving unusual speed and endurance, but aside from this "almost any degree of exertion can be permitted."



CARDIOLOGIST Louis F. Bishop of N. Y.

Ventricular premature contractions: A simple increase in heart rate causes the irregularity to disappear.

Neurocirculatory asthenia: Exercise is almost mandatory, plus reassurance that no heart disease exists.

An exception in the general prescription for more exercise, said Dr. Bishop, follows heart surgery, when the patient should be limited in the activity he feels capable of doing.

Similarly, after reviewing a score of human and animal studies on physiological effects of activity, Dr. Henry

J. Montoye, associate professor of physical education at Michigan State University, reports "ample evidence to support the belief that a judicious measure of exercise helps to prevent conditions under which coronary heart disease occurs."

And, Dr. Montoye adds, "the evidence has multiplied to show disadvantages to sedentary life. Unless counteractive measures are followed, the prospects are for greater obesity and more coronary heart disease at increasingly younger ages."

A bit of evidence, counter to the familiar advice to "take-it-easy-after-40," came from Dr. E. Sterling Nichol, Miami cardiologist, who at 65 is a rabid tennis player with self-described "garden variety skill."

TENNIS, ANYBODY?

Dr. Nichol took electrocardiograms on 27 men, including himself, aged 60 to 81, playing in an "old men's" tennis tournament. On instruction, players ran to the EKG couch after the final point in matches, ranging from 12 to 24 games.

Only one man showed a really significant EKG change—he had an irregular heart beat which was worsened by playing. Had this been his patient, Dr. Nichols said, he would have advised him not to play. Only one of the players has died—succumbing to cancer.

This limited study supports opinion that a normal heart is not harmed by strenuous exercise, if a person is used to it, Dr. Nichol concludes. He thinks the benefits of regular, continued exercise include less need for tranquilizers, and perhaps they forestall premature aging of the pulmonary as well as cardiovascular systems.

But EKG's, someone remarked, are subject to emotional stresses, and pregame readings, therefore, might have been inaccurate in these men when they were simply at rest, and would not have shown pre-existing irregularities.

Dr. Nichol had an answer — the technicians included two attractive red-haired girls and the effect of their presence presumably was not missed by even these "old" tennis players. ■



DR. M. C. NIU of Rockefeller Institute reports to Academy that liver RNA can convert ascites cells into nontumorous state.

RNA TAMES TUMOR CELLS

The National Academy of Sciences gathers to hear significant reports on a major biological feat, the effects of radiation on physicians, the cause of ulcers

In the marble-pillared, Great Hall, in Washington, D. C., the elite National Academy of Sciences assembled for its 97th annual look at the nature of the universe — from the nuclei of viruses to the nuclear processes in supernovae.

In the medical field, these important advances were revealed:

- A New York scientist made mouse ascites cells nontumorous simply by treating them with liver RNA. Even more significant, preliminary indications are that the treated cells showed every sign of resuming normal cellular differentiation.

- Oak Ridge National Laboratory

scientists reported bad news for physicians. Even at the low dose rate of 10r per week, ionizing radiation produces about the same genetic damage as 90r per week. This virtually rules out hopes there might be a safety-threshold — or even a sharp reduction in genetic damage — at extremely low dose rates.

- Harvard University researchers, manipulating the basic templates of life, separated the helical strands of DNA from different bacteria and recombined them to form new hybrid nucleic acids with different genetic markers and different chemical modifications.

- A University of Florida investigator sharply challenged the recently emphasized idea that duodenal ulcers are caused or exacerbated by the action of stress-released cortisone on the gastric glands. He cited, instead, experiments indicating that gastric hypersecretion is actually mediated through the vagus nerves.

- And a symposium on brain structure and behavior revealed important links between neural structure and function — particularly in the case of the pituitary-adrenal cortical system and sexual activity.

The tour de force of this year's meeting, however, was the finding by Dr. M. C. Niu of the Rockefeller Institute, that liver RNA can convert ascites cells to an essentially nontumorous state. It is believed to be the first time this feat has been accomplished in any tumor system. The profound im-

CONTINUED

plications for cancer research are obvious.

For one thing, Dr. Niu's work strongly suggests the possibility of a nuclear, or mutational, basis for the cancerous process. Conceivably, it could also point the way to another new approach to the problem of treatment. Liver RNA injections failed to halt established ascites tumors in mice. But this was presumably because of RNase, an obstacle which scientists at the meeting believed might be overcome.

It is well known that chemical inducers, such as DNA and RNA, can launch the organization of specific tissues from undifferentiated cells in the embryonic state. Dr. Niu reasoned that it might similarly be possible to trigger the reorganization of undifferentiated cancer cells in somewhat the same way.

In his study, he took mouse ascites cells, incubated them with liver RNA and then injected the material into susceptible mice. The results were dramatic. Tumors developed in 97 per cent of 158 untreated mice, and in 77 per cent of mice given ascites cells treated with a low concentration of DNA.

The tumor rate in 166 mice given ascites cells which had been incubated with a relatively high concentration of liver RNA, however, fell to only eight per cent — even after eight months' observation.



NOBELIST Wendell Stanley is one of 16 Laureates at Academy meeting.

The treated cells acquired the capacity to synthesize serum albumin-like protein. And, even more remarkable, were the clear signs of cell differentiation in a limited number of sectioned mouse tissue which Dr. Niu studied in detail.

While underscoring that his findings were preliminary, the Rockefeller scientist emphasized that, "by studying the frequency of tumor formation following injection, it was seen clearly that liver RNA at optimal concentration can indeed inhibit the tumorigenic capacity of the ascites cells."

The possibility that the phenomenon might be due to a cytotoxic mechanism was ruled out on the grounds that there were too few degenerative cells. Dr. Niu conceded another possibility was that a small resistant virus was present in the RNA-ascites cell preparation.

Clearly, however, he felt that the most likely possibility is that the cells actually underwent "some sort of mutational change."

RADIATION FINDINGS

The new evidence against existence of a threshold-dose rate in the case of medical x-rays, or other ionizing radiation, was reported by Oak Ridge's Dr. W. L. Russell. He showed that reducing the dose rate below 90r per week in mice did not result "in any further reduction" in mutation frequency.

A 1958 report by Dr. Russell and Dr. Elizabeth M. Kelly showed—contrary to previous theory—that a given

amount of radiation causes less genetic damage when given in several small doses than when given in a single large dose. On the basis of this, some medical authorities thought hopefully that there might be a threshold-dose rate below which little or no radiation damage would result.

In their new work, the Oak Ridge investigators used nearly 100,000 mice. One group of animals was given 300r, at 10r per week. A second group was given only 86r, also at 10r per week. In both groups the mutation rate was significantly higher for controls and, surprisingly, about the same as that observed in the 90r per week experiments reported in 1958.

"The new data support our earlier findings that a given dose of chronic (90r/week) irradiation is less genetically damaging than the same dose of acute (90r/minute)," the team reported. "But there is no indication that lowering of the chronic-irradiation dose rate from 90r/week to 10r/week has resulted in any further reduction in mutation frequency."

Dr. Lester R. Dragstedt of the University of Florida, long an advocate of vagotomy for duodenal ulcers, attacked the idea recently advanced by other investigators that ulcers are caused by physical and mental stress stimulating hypersecretion of hydrochloride through cortisone acting directly on the gastric glands.

Dr. Dragstedt reported that ACTH, cortisone, epinephrine and insulin hypoglycemia had no stimulatory



THE RUSSELLS give new x-ray findings.

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May 2



DISCUSSIONS go on between sessions.



EISENHOWER'S AIDE George Kistiakowsky chats with his colleagues.

effect on vagus-denervated accessory stomach pouches in dogs and pigs. In 85 patients, he also found that gastric secretion was cut drastically by vagotomy even in the presence of sharply increased cortisone output.

Patients with duodenal ulcers usually secrete from three to ten times more hydrochloric acid in the fasting,

empty stomach at night than do normal people, according to Dr. Dragstedt. The third night before undergoing vagotomy, he found, the average fasting output of acid in his patients was 48 milli-equivalents. The night before surgery, the output rose to 67.57. Following vagotomy, however, it fell to 3.32 milli-equivalents the first night and rose to only 6.11 on the fifth night. The drop-off occurred despite an increase in cortisone release during the first postoperative days.

Dr. Dragstedt said it is clear that hypersecretion had been abolished by vagotomy and "there is thus no evidence for the release of a humoral gastric secretory stimulant in these patients." How the vagus nerves may be stimulated, however, remains unclear, the Florida surgeon acknowledged.

LIMBIC STIMULATION

At the brain and behavior symposium, Dr. John W. Mason of Walter Reed Army Institute of Research reported evidence that the amygdaloid complex triggers increased hydrocortisone output while the hippocampus also situated in a primitive part of the cortex, tends to suppress its release. This suggests that the two areas act in coordination to increase hydrocortisone output during emotional stress and then to reduce it afterward.

Dr. Paul D. MacLean of the National Institute of Mental Health reported the discovery that penile erection could be induced by stimulation of the septal circuit in the limbic system

of the cat. Despite extensive brain-mapping studies over some 80 years, he said, there had been a "notable lack of information" about cerebral localization of this sexual function. The discovery led to a systematic study of sexual behavior areas in the brain of the squirrel monkey. This showed extensive association of genital function with the septal and mammillothalamic pathways of the limbic system.

Dr. Liane Russell, of Oak Ridge, whose husband reported the chronic radiation studies, showed that the mammalian egg is extremely radio-sensitive immediately after fertilization. Some human females are stunted sexually because they lack one chromosome and are therefore genetic XO's instead of XX's.

On the theory that the XO-combination-loss could be caused by a chromosome loss following fertilization, rather than during meiosis and spermatogenesis, she irradiated mice at different intervals immediately after fertilization. With this, the percentage of XO individuals significantly showed an increase.

As a result, Dr. Russell and her co-worker Dr. Clyde L. Saylor, maintain that chromosomes are extremely labile immediately after fertilization and therefore very sensitive to radiation and possibly other stimuli. Such stimuli could thus help account "for the spontaneous cases of individuals having an abnormal sex chromosome constitution which, in man at least, leads to abnormal sexual development." ■



SCIENTISTS converse after day's papers.

INCREASED LIFE EXPECTANCY FOR HYPERTENSIVES

"Life expectancy seems to be the one criterion that is most reliable and least questioned as a method of evaluating treatment for patients with elevated blood pressure."¹ "It is evident that effective therapy of hypertension will prolong the life of the patient by preventing the dreaded complications of this disease in the brain, the heart and the kidneys ." "There is no doubt of the prolongation of life in group 3 and 4 (Keith-Wagener-Barker) by adequate antihypertensive treatment. Some authorities report a 50 per cent, five year survival ratio for treated patients with malignant hypertension as against a 1 per cent survival ratio for untreated patients."²

Evaluation based on life expectancy is extremely difficult because of the peril of maintaining an untreated control group.¹ The doctor, however, can evaluate the symptoms related to the elevated blood pressure. . . . We know that retinopathy may improve, the heart may be reduced in size, the electrocardiogram may improve and in favorable cases the blood urea nitrogen level may fall.² These are reasonably objective criteria on which to base one's evaluation of treatment.¹

On the succeeding page is evidence that Unitensin included in any therapeutic regimen may improve the results in hypertension as measured by a regression of objective clinical changes in a substantial proportion of the patients treated.

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Unlike diuretics or ganglionic blocking agents, Unitensen lowers blood pressure through widespread vasorelaxation. Normal vasomotor responses are not altered, and there is no venous pooling with resulting postural hypotension.³⁻⁵ Through alleviation of cerebral vasospasm, Unitensen promotes cerebral blood flow and oxygen utilization.⁶⁻⁹ Furthermore, Unitensen increases cardiac efficiency, improves renal function and tends to arrest the progress of vascular damage.^{3, 4, 10}

Progress of Objective and Subjective Symptoms in Grades III and IV Hypertension Following Treatment with Unitensen and Unitensen-R

Observations in Patients* Treated up to 2 Years

Observations in Patients* Treated up to 3½ Years

The Course of Subjective Symptoms

Symptom	Number**	Improved	% Improved
Headache	27	21	77.7
Palpitation	20	13	65.0
Angina	15	9	60.0
Dyspnea	17	8	47.0

Number**	Improved	% Improved
43	38	88.0
29	19	65.5
21	16	76.0
27	14	51.0

Objective Changes Following Treatment

Finding	Number**	Improved	% Improved
Funduscopic Changes	41	24	58.5
Enlarged Heart	20	13	65.0
Abnormal ECG	37	10	27.0
Proteinuria	31	12	38.7
Nitrogen Retention	17	6	35.2

Number**	Improved	% Improved
59	38	66.0
35	23	65.7
45	25	55.5
43	27	62.7
28	10	35.7

Left hand charts from Clinical Exhibit "The Ambulatory Patient with Hypertension" presented AMA Convention, San Francisco, June 22-27, 1958, by B. M. Cohen, M.D.

*All patients in this study were initially classified as Smithwick Grades III and IV.

**Expressed as the number of patients exhibiting the symptom recorded.

Right hand charts include patients previously reported who had been continuously maintained on Unitensen and Unitensen-R, plus additional patients later added to the study. From Clinical Exhibit "The Office Diagnosis and Treatment of the Patient with Hypertension" presented American Academy of General Practice, Indianapolis, March 18-19, 1959, by B. M. Cohen, M.D.

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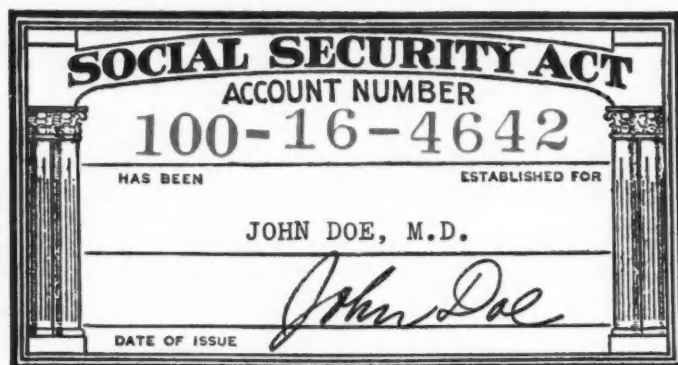
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SOCIAL SECURITY:



DO DOCTORS WANT IT?

Probable Congressional action to include physicians in the Social Security system points up a seeming conflict of views between the AMA and many of its members

Social Security, an issue on which organized medicine and many of the nation's private physicians have been split, is about to be settled—by an act of Congress.

The House Ways and Means Committee, now preparing a revised Social Security bill, is almost certain to write in a provision making Social Security coverage compulsory for all self-employed physicians. Most Washington observers expect such a provision to become law by the time Congress adjourns.

Such action would bring under Social Security the largest occupational group still outside the law — the doctor. It will also mark the first time that Congress has included a professional group against the wishes of major organizations in the field. And, if Congressional action comes, it will settle a controversy which has pitted organized medicine against the apparent wishes of a significant number of indi-

vidual physicians in every state.

Ever since 1949, when the AMA House of Delegates first stated its active opposition to compulsory Social Security coverage for physicians, there has been no doubt where the AMA stands on the question.

NOT MUCH HELP

In presenting the case against compulsory coverage to Congress, the AMA has relied heavily on the contention that Social Security wouldn't help the average doctor much. In its most recent statement on the question, Dr. F. H. L. Blasingame, executive vice president of the AMA, wrote Rep. Wilbur Mills (D-Ark.), chairman of the Ways and Means Committee, that more than 85 per cent of physicians between 65 and 72 are in active practice. Most doctors, the Chicago official said, retire only after the age of 74.

"Thus," the statement continued, "if forced under this program, the typi-

cal physician would be required to pay Social Security taxes until age 72 before he would receive any benefits."

In addition to the question of benefits, AMA opposition to compulsory coverage has centered on three other main points:

Morally, it contends, doctors could not oppose the extension of Social Security in other areas—particularly the provision of hospital and medical services—while urging coverage for themselves.

Social Security, as organized medicine sees it, is not true insurance, guarantees no contractual rights to persons enrolled and isn't actuarially sound.

Medical leaders have a better understanding of the Social Security issue than the typical physician. Moreover, there is no valid measure of how the average doctor really feels: polls on the subject haven't been scientifically conducted.

It's around this last point that most

THE VOTE ON SOCIAL SECURITY: PRO AND CON



Polls by state medical societies during the past three years show 12 states — eight in the East and Southeast, four in the Midwest, and the District of Columbia—in favor. Six states—four Southern, two Midwestern—are opposed

of the controversy centers. Doctors who want Social Security point out that many polls on the question have been conducted in the last few years, and the voting has been heavily on the side of compulsory coverage. If these polls are valid, ask procoverage physicians, why hasn't the AMA altered its stand? And if the AMA believes they are not valid, why hasn't it conducted a scientific nationwide survey on its own?

The AMA's reply is summed up by a resolution passed in December 1958, which rejected demands for an AMA poll on the ground that "members of the House of Delegates are sufficiently well informed to represent adequately the views of the physicians of America on this question." But are they, ask many physicians?

As far back as 1952 a survey of 5,000 MDs conducted by *Medical Economics* showed that 45 per cent of the respondents wanted Social Security coverage. Two years later, a similar

study indicated that more than half — 54 per cent — wanted it.

In 1954, the House Ways and Means Committee, acting largely on the basis of letters from individual physicians, voted to extend Social Security to doctors. But it reversed itself a few days later following protests from the AMA, state-society leaders and other anticoverage doctors.

FOR VOLUNTARY COVERAGE

At about this time the AMA House of Delegates said it was not opposed to voluntary coverage for physicians — although Social Security advocates maintained that Congress would never consider voluntary coverage for physicians. (The privilege has since been given clergymen.)

In December 1955, the House took its first steps to find out how physicians felt by asking state societies to poll members on the question. The AMA decided not to conduct its own survey,

but offered state societies help in framing the questions.

The results of 37 state polls, when analyzed by Frank Dickinson, then the AMA's chief statistician, led to no definite conclusion. Since each state had conducted its own survey, Dr. Dickinson maintained that no national tally was possible. He found that 34 of the 37 states were clearly opposed to compulsory coverage, but that 23 of the 34 seemed to favor voluntary. An added factor, not mentioned by Dr. Dickinson, was that in three of the largest states — Massachusetts, New York and Pennsylvania — a majority of respondents voted for compulsory coverage.

To some observers it seemed that the AMA, by refusing to spell out valid ground rules in the beginning, had assured itself that the polls wouldn't lead to definite conclusions — and that by stressing the "voluntary" possibility it

CONTINUED

SOCIAL SECURITY CONTINUED

led some doctors to vote against compulsory coverage who would have been for it if they had seen it as the only alternative.

Meanwhile, *Medical Economics* was busily polling another national cross-section of its readers — this time 10,000 in all — on, as they said, “the only two possibilities that actually confront” doctors: compulsory Social Security or none. Results showed 60 per cent favoring no coverage and 40 per cent in favor of compulsory inclusion.

AMA EXPLAINS STAND

In June 1957, the AMA House reaffirmed its opposition to compulsory coverage, and recommended an “informational campaign” to explain the

authorize a referendum on the compulsory-or-none issue.

During the heated debate, one delegate exclaimed, “How can men propose that we accept Social Security and then turn around and oppose socialized medicine? Instead of considering ways of participating, we should be considering how we can destroy the damned thing!”

The House voted down the referendum idea, saying it was already “sufficiently well informed,” but it left the way open for a new batch of state polls.

The results of the first of these were presented at the December 1958, clinical meeting in Minneapolis. Covering more than 75 per cent of Ohio’s medical-society members, it showed about 60 per cent of the respondents in favor of Social Security coverage. (Two years earlier Ohio physicians had been

introduced, four urging coverage and one urging continued opposition.

At committee hearings, sentiment ran strongly against coverage. Thirty-three delegates spoke out in opposition, only five in favor. Much of the debate was given to questioning the validity of the state polls. A Pittsburgh delegate said that the survey questions in Pennsylvania were “rather ambiguous and not clearly understood” by members. A Georgia doctor added: “The results . . . might mean something, but I rather think they mean a vast amount of ignorance.”

OHIO OPPOSED

It was pointed out that at least one state House of Delegates — Ohio’s — had refused to go along with its pro-coverage poll of members and was still officially opposed to Social Security.

The reference committee concluded that the state polls were open to “severe challenge” and that “some physicians who participated in the polls may not have been in possession of the type of data brought out in discussion here.” The upshot: the House turned down the four “pro” resolutions and again reaffirmed its opposition to compulsory coverage.

Since that time the AMA has stopped mentioning results of state polls. By the end of last summer, however, at least 18 states and the District of Columbia had conducted surveys on the issue within a three-year period. Thirteen of these are on record as favoring Social Security coverage. Included are seven states that once voted against compulsory coverage.

On the pro side are Connecticut, District of Columbia, Florida, Maine, Massachusetts, Michigan, New Jersey, Ohio, Pennsylvania, South Dakota, Virginia, Vermont and West Virginia. Opposed are Arkansas, Georgia, Maryland, Minnesota, Montana and South Carolina.

As things stand today, the AMA still opposes compulsory coverage despite evidence that a growing number of members want it. (The most recent national survey, involving 5,000 doctors, found 56 per cent in favor, 30 per cent opposed, and 14 per cent undecided.) The coming AMA meeting in June is sure to see another rash of resolutions from states urging coverage — and the House is almost certain to turn them down.

But by then, if Congress acts as expected, Social Security for physicians may already be a fact. ■

‘How can men propose that we accept Social Security and then turn around and oppose socialized medicine? Instead of considering ways of participating, we should be considering how we can destroy the damned thing!’

AMA delegate, 1958

AMA stand to its members. The campaign, a joint venture of the AMA law and public relations departments, consisted of editorials and a three-part series in the *Journal of the AMA*, a pamphlet called “Which Way” distributed to 200,000 doctors and material designed for state and local society meetings. The campaign stressed the organization’s moral objections, questioned the financial soundness of the program and stated that doctors could buy better coverage if they shopped around among private companies.

Despite the campaign, demands for compulsory coverage were stronger than ever at the 1958 AMA meeting in San Francisco. Two states, New York and Connecticut, introduced a total of six resolutions aimed at getting the House to change its position, or at least

about evenly divided on the question.)

RESULTS OF SURVEY

Also at the Minneapolis meeting, a committee headed by Dr. Lewis A. Alesen of Los Angeles, reported on a survey it had made using a national sampling of physicians. This study was designed to find out how doctors felt about a broad range of AMA policies. The committee found that physicians expressed more interest (pro and con) in Social Security coverage than any other single issue.

Thus the stage was set for the meeting in Atlantic City last June. Polls available at convention time indicated that doctors in nine out of 13 states had voted for compulsory Social Security, usually by a substantial margin. At the meeting itself, five resolutions were in-



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MEDICAL DETECTIVES UNEARTH 'HOT' LOOT

Cloaked in secrecy, special crews track down 50-year-old radium cache — including \$60,000 worth of salvage — accumulated in a downtown Pittsburgh office building

ra·di·um; a metallic element . . . extracted in very minute quantities from pitchblende . . . Ra possesses the property of radioactivity to a degree greater than that of any other known substance, 100,000 times more than uranium . . .

A small group of physicians, listening to the concluding paper on the program of the American Industrial Hygiene Association's meeting in Rochester, N. Y., suddenly sat up. At the dimly lit lectern, a young physicist was reporting an incredible story.

Reynold L. Hoover, director of health safety for the nuclear division of Combustion Engineering, Inc., of Windsor, Conn., related that for the past eight months, special crews working in strict secrecy have been decontaminating a 50-year accumulation of radium from an office building in the heart of Pittsburgh.

No one in the five-story building except officers of one firm knew the true situation; stenographers, clerks and employees of all the other tenants believed the work to be simply a renovation job.

When his crew began, Hoover told his audience, the alpha activity ex-

ceeded 100,000 disintegrations per minute per 100 cm². In some parts of the radium-laden buildings, emissions were as high as 500 millirems per hour. (A rem is equivalent to one-thousandth of a roentgen). Most heavily contaminated areas were on the fifth floor and in a section of the basement.

Today, the radioactivity has been brought down to a level not exceeding two-tenths of a millirem per hour at a distance of one foot from the surface.

In this medical detective story the "crime" took place in the exciting days of the Curies' discovery of radium in 1898.

Shortly after the turn of the century, Hoover said, a group of investigators began experimenting with refined radium ore in the Pittsburgh building, seeking to find what diseases could be treated — or cured — with the newly-discovered element. The scientists ran tests on a fair-sized animal colony, and later prepared radium in capsules and saline solutions for therapeutic use by physicians. During this early period, the Connecticut physicist emphasized, scant data existed on the destructive effect of radium. Thus, the investigators did little, if anything, to curb contamination of their quarters.

OUT OF BUSINESS

Shortly after the end of World War I Madame Curie herself visited the building and reviewed the work of the chemists and physicists who headed the firm. The group, as it continued its work, also prepared radium for watch dials, but subsequently went out of business in the early '30's, when physicians, alarmed at disastrous results from indiscriminate use of radium, stopped using it. Some of the original founders of the firm, however, formed a new company and began preparing activated zinc sulfide for the radium dial industry.

Thus matters stood — as did the continuing radioactivity — until early in January, 1959, when an inspector from the Pennsylvania State Depart-

ment of Public Health made a routine visit to the building. He was jolted by what he saw and learned. Old, discarded radioactive equipment and material littered the place.

There followed a quiet survey by the state which indicated large scale contamination — Hoover later figured it to cover at least 10,000 square feet. The Department ordered the building's owner and the radium firm to clean up the radioactivity.

This was where Hoover and his Connecticut firm entered the picture.

Parts of the structure abounded in radioactivity. The building had been renovated several times. Old wooden floors had been covered with asphalt tile, and new ceilings had been built, covering blind spaces alive with radioactive material.

RIP BUILDING APART

Hoover realized his men would have to rip apart walls and ceilings, section by section. And they would have to keep to a minimum the tracking of contamination from one space to another, the exposure of the working crew to external ionizing radiation and ingestion of radioactive dust. In addition, the building would have to be decontaminated to a level where people working in it would not be exposed either to radon, the gas product of radium, or to radiation.

"We had to play it by ear," Hoover told his audience. It was the first such job they had tackled.

Before beginning in July 1959, the crew were extensively indoctrinated in the perils of radiation and the methods of protection. They were told, in grim detail, what happened in the case of the radium dial painters who moistened the tips of radium-coated brushes with their lips.

Thus schooled, the crew went into action. They wore surgeons' caps, coveralls, safety shoes, shoe covers and gloves. They changed clothes three times a day. They took showers twice a day. A "headquarters" area, from which operations were directed, was itself decontaminated three or four times daily. Tools, too, had to be constantly decontaminated. Over a 20-week period, Hoover said, the highest accumulated exposure of his crew members was 805 millirems. The lowest was 90.

Urine samples were taken from the crew members before they began work. Thereafter, weekly urine samples were obtained. When urinalysis showed greater amounts of radium,

MASKED WORKER tests radioactivity.



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CHIEF INVESTIGATOR R. L. Hoover.

daily samples were taken. Men worked in contaminated areas for only brief periods—sometimes only 15 minutes—and respirators were used.

VISIT TO A TOMB

Walls and floors, plaster, concrete and wood were ripped out. As the false ceilings were wrenched loose, the radioactivity jumped higher. The debris was carefully placed in 55-gallon metal drums. Much of the early lab equipment (including a highly-contaminated hot plate) was also removed. "It was like taking a trip to Grant's tomb," remarked Hoover. "Some of the lab equipment belonged in a museum."

Before the job was done, 200 to 300 drums of the debris were removed.

Although his task was confined to the mechanical decontamination, Hoover wondered about the effects of the radioactivity on the individuals who had worked in the building. Most of the original organizers of the radium lab and their staff had died, presumably of old age. One surviving member—the head chemist—now in his seventies, traveled unofficially to the Argonne Laboratory, University of Chicago, to be checked out. No radiation damage was found.

Hoover and his men next checked the cars and homes of two individuals who had worked in the areas most affected. "We were surprised at not finding anything," he said.

It has cost \$70,000 to rid the building of contamination. But Hoover's firm has collected at least four grams of radium, estimated to be worth about \$15,000 a gram, and is negotiating to sell the salvage to a Canadian company. As for a painstaking follow up of individuals who worked in the building, Hoover says, "In the area of evaluating threshold, it might make an interesting project—and a very expensive one."

CONFERENCE STUDIES CARCINOGENS IN AIR

Lung cancer investigators have long pondered over the cumulative effects of the atmospheric pollutant 3, 4 benzpyrene, a known carcinogen in animals and a suspected one in man. They have likewise wondered how much of the compound, which is found in cigarette smoke, actually exists in city atmospheres.

Partial answers to both questions emerged from the 1960 Industrial Health Conference in Rochester, N. Y. Dr. William C. Hueper and William W. Payne, Sc.D, of the National Cancer Institute, reported that repeated small doses of 3, 4 benzpyrene given over a 12-month period appeared to induce more tumors in mice than did the same amount of the carcinogen in one large dose.

In experiments with 1,000 mice, the investigators injected quantities of benzpyrene ranging from 0.008 milligrams to 0.5 milligrams, either in a single dose or in 12 equal monthly injections. They found that the monthly doses produced more tumors—mostly of the fibrosarcoma or spindle-cell type—than the single injections, except at the lowest dosage levels.

This finding took on added significance in the light of a second report by Eugene Sawicki, Ph.D., of the Robert A. Taft Sanitary Engineering

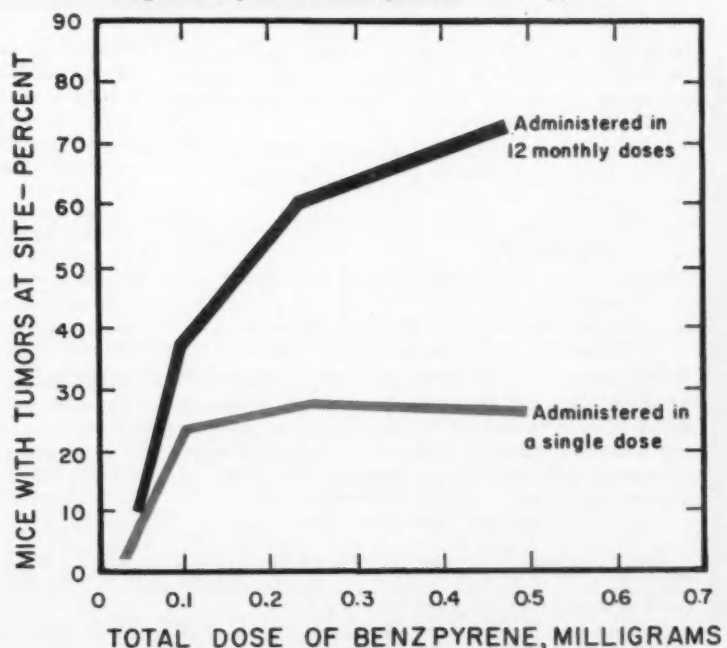
Center, Cincinnati. From extensive air samplings in 103 cities and 24 rural locations, he calculated that the nonsmoker in many large cities inhales more benzpyrene than a pack-a-day cigarette smoker in rural communities.


EAST HIGH, WEST LOW

Concentrations of the carcinogen were highest in the East and Midwest, lowest in the West, and from three to 20 times greater in winter than in summer. Birmingham, Alabama, tops all American cities in atmospheric benzpyrene: its nonsmoking residents inhale some 150 micrograms of the compound annually, as against 60 micrograms for the rural pack-a-day smoker. The Birmingham concentration, however, is far outclassed by that of smoky London.

As to the relationship between atmospheric benzpyrene and lung cancer, Dr. Sawicki reports that while mass data show a correlation between lung cancer mortality and community size, the relationship does not hold for individual cities. As a possible explanation, he notes that recent mortality figures presumably reflect exposure to carcinogens in 1920-50, which would probably differ in pattern from the 1959 measurements.

Single vs. repeated monthly doses of benzpyrene.





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Squibb Benzhydroflumethiazide

Naturetin[®] K
Squibb Benzhydroflumethiazide with Potassium Chloride

"...a safe and extraordinarily effective diuretic..."¹

Naturetin—reliable therapy in edema and hypertension—maintains a favorable urinary sodium-potassium excretion ratio... retains a balanced electrolytic pattern:

"...the increase in urinary output occurs promptly..."¹

"...the least likely to invoke a negative potassium balance..."²

"...a dose of 5 mg. of Naturetin produces a maximal sodium loss..."²

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"...no apparent influence of clinical importance on the serum electrolytes or white blood count..."³

"...no untoward reactions were attributed to the drug..."⁴

Although Naturetin causes the least serum potassium depletion as compared with other diuretics, supplementary potassium chloride in Naturetin [®] K provides added protection when treating hypokalemia-prone patients; in conditions where likelihood of electrolyte imbalance is increased or during extended periods of therapy.

References: 1. David, N. A.; Porter, G. A., and Gray, R. H.: *Monographs on Therapy* 5:60 (Feb.) 1960. 2. Stenberg, E. S., Jr.; Benedetti, A., and Forsham, P. H.: *Op. cit.* 5:46 (Feb.) 1960. 3. Fuchs, M.; Moyer, J. H., and Newman, B. E.: *Op. cit.* 5:55 (Feb.) 1960. 4. Marriott, H. J. L., and Schamroth, L.: *Op. cit.* 5:14 (Feb.) 1960. 5. Ira, G. H., Jr.; Shaw, D. M., and Bogdonoff, M. D.: *North Carolina M. J.* 21:19 (Jan.) 1960. 6. Cohen, B. M.: *M. Times*, to be published. 7. Breneman, G. M., and Keyes, J. W.: *Henry Ford Hosp. M. Bull.* 7:281 (Dec.) 1959. 8. Forsham, P. H.: *Squibb Clin. Res. Notes* 2:5 (Dec.) 1959. 9. Larson, E.: *Op. cit.* 2:10 (Dec.) 1959. 10. Kirkendall, W. M.: *Op. cit.* 2:11 (Dec.) 1959. 11. Yu, P. N.: *Op. cit.* 2:12 (Dec.) 1959. 12. Weiss, S.; Weiss, J., and Weiss, B.: *Op. cit.* 2:13 (Dec.) 1959. 13. Moser, M.: *Op. cit.* 2:13 (Dec.) 1959. 14. Kahn, A., and Greenblatt, I. J.: *Op. cit.* 2:15 (Dec.) 1959. 15. Grollman, A.: *Monographs on Therapy* 5:1 (Feb.) 1960.

Numerous clinical studies confirm the effectiveness¹⁻¹⁵ of Naturetin as a diuretic and antihypertensive—usually in dosages of 5 mg. per day.

■ the most potent diuretic, mg. for mg.—more than 100 times as potent as chlorothiazide ■ prolonged action—in excess of 18 hours ■ maintains its efficacy as a diuretic and antihypertensive even after prolonged or increased dosage use ■ convenient once-a-day dosage—more economical for patients ■ low toxicity—few side effects—low sodium diets not necessary ■ not contraindicated except in complete renal shutdown ■ in hypertension—significant lowering of the blood pressure. Naturetin may be used alone or with other antihypertensive drugs in lowered doses.

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DOCTORS' DOCTORS ARE ALL GOOD DOCTORS

A survey of 6,000 MDs shows that the doctor knows best, and gets the best, for himself and family when ill — even if he has to go out of town to find it

Nothing but the best is good enough for the doctor when he is sick. And he's willing to travel a long way to get well.

A Board-certified obstetrician delivers his children. A Board-certified specialist operates on him. And if he has a personal physician—which he rarely does—it is a Board-certified internist.

These are the findings of a unique study on physicians' choice of medical care made by Columbia University's School of Public Health and Administrative Medicine.

The doctor thinks his community is a great place to live and practice, but when he needs hospital treatment he's likely to go outside the community, even out of the state. He is usually critical of physicians working for salaries, but he's likely to choose a salaried surgeon on the faculty of a medical school if he needs surgical attention.

'HIGHEST COMPETENCE'

When a doctor chooses a doctor for himself or members of his family, he looks for the highest technical competence available, and competence of which he has personal knowledge. Personality, convenience, age or other variables rarely enter into the choice, according to Dr. Milton Maloney, research associate, who described the results of his study at a reunion of the School's Alumni Association.

At least, that's the picture among the 6,000 actively practicing physicians in New Jersey. Dr. Maloney believes the findings are applicable to physicians throughout the U.S.

Ninety per cent of a random sample of doctors were personally ques-

tioned for as long as two hours by skilled interviewers on the medical care they had received both in and out of hospitals for a period of one to three years. Three out of four of the doctors think they receive medical care as good as or better than laymen of similar economic and social status, including their own patients.

To check the doctors' high opinion of the physicians they select for themselves, the interviewers made every effort to get their doctors' names. A roster of 1,500 was compiled, and all available material about the doctors was secured from medical directories. In addition, a mail questionnaire was sent to each, asking questions relating to their background, education and technical competence.

Almost all of these men selected by their colleagues were, as it turned out, highly trained specialists. The vast majority were Board diplomates. Almost none were general practitioners. The obstetricians chosen were almost all full-time specialists, generally members of the College of Obstetrics and Gynecology, frequently also members of the faculty of a school of medicine.

NO MATTER WHERE

Faced with a medical decision, the doctor thinks in terms of the man who will render care rather than the place where it will be given, the study showed. But, oddly enough, the New Jersey doctor seems to head for hospitals outside the state, and the more training he has, the more likely he is to leave his own community when in need of therapy.

Dr. Maloney grants the rather unusual situation of New Jersey, a state

short on medical schools and conveniently located between the rich resources of New York and Philadelphia. However, he feels the tendency to leave their own communities for medical care is not peculiar to Garden State physicians. The doctors said they were more likely than laymen to get their medical care outside the state because they are more aware of what is available elsewhere.

PATIENT INCOGNITO

But the possibility of some more complex reasons is hinted by the fact that some doctors entered out-of-state hospitals under assumed names. Whether they were trying to hide from their patients or their colleagues isn't clear. But the doctor who leaves the state for his medical care apparently does risk community disapproval, Dr. Maloney said.

What are the characteristics of these specialists that New Jersey doctors take so much trouble to consult? Ninety-five per cent of the doctors' surgeons are full-time specialists, 87 per cent diplomates, 82 per cent members of the College of Surgeons, 49 per cent directors of their departments, 77 per cent faculty members of medical schools. One hundred per cent of surgery for malignancies of any kind was performed by medical school faculty members.

The Columbia University study on physicians' medical care is part of a larger research project to determine specific means of measuring the quality of medical care. Before the study began, Dr. Maloney said, he was of the opinion that physicians were qualified to choose medical care of high quality. Now he's sure of it. ■

When panic strikes your preoperative patient

VISTARIL, as part of a preoperative regimen, can safely relax your patients by allaying fear and apprehension. They are able to sleep soundly at night, and usually remain calm but alert during the day. Postoperatively, VISTARIL quiets anxiety and controls emesis.

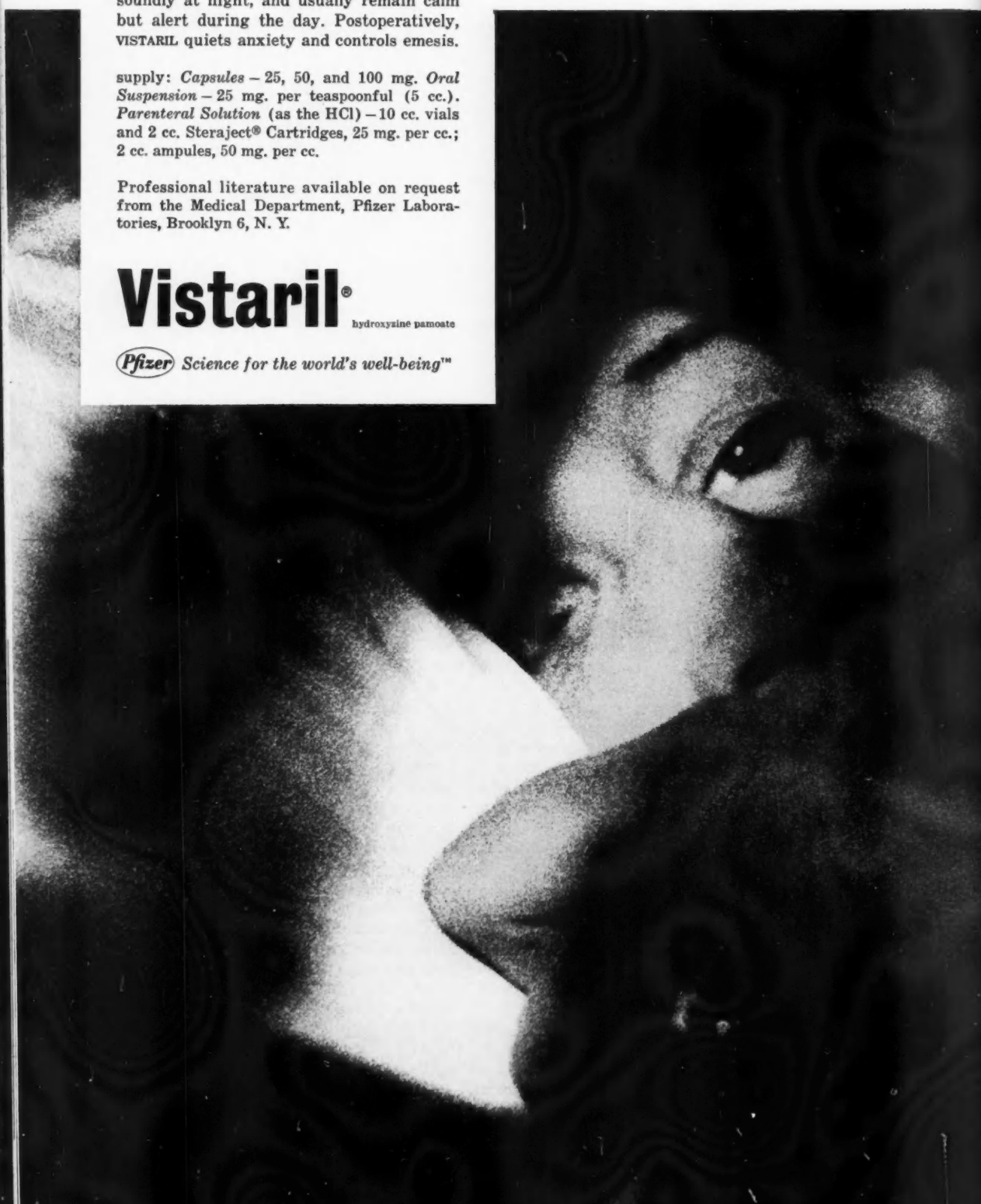
supply: *Capsules* — 25, 50, and 100 mg. *Oral Suspension* — 25 mg. per teaspoonful (5 cc.). *Parenteral Solution* (as the HCl) — 10 cc. vials and 2 cc. Steraject® Cartridges, 25 mg. per cc.; 2 cc. ampules, 50 mg. per cc.

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LEGISLATIVE NEWS

The U. S. Public Health Service is about to undergo a major overhaul. The idea is to streamline the agency so it can deal more effectively with present-day problems.

A special committee, working on the reorganization blueprint, has just made its first progress report. Among things called for: creation of a special division to take over management of the various USPHS environmental health programs—air and water pollution and radiation hazards.

Another recommendation is to transfer all environmental and disease control grants from NIH to the appropriate PHS units. Surveys—the national health surveys, mental health survey—would be combined in one office. Rejuggling of sections of the established bureaus is also recommended.

Some of the changes will require legislation. After the ideas are thrashed out, they'll be presented to Congress early next year. Other proposals, not requiring Congressional action, may be put into effect sooner.

The pressure is on for more East-West cooperation in the health field. It may come up at the summit conference in Paris.

While in Washington, French President DeGaulle plugged his idea of a massive East-West aid program for underdeveloped countries. U. S. leaders were sour on the plan. Main reason: the move might give Russia a toe hold in countries where it now has no influence.

As a compromise, DeGaulle will water down his plan and limit it to a bid for more cooperation in the health field and perhaps other special areas. On this restricted basis, President Eisenhower indicates he will go along.

A resolution calling on the President to push for a cooperative international medical research program at the summit has been introduced by Rep. Harrison A. Williams, Jr., (D-N. J.) and 14 other Democrats. They said program should be under WHO auspices or along the lines of Sen. Lister Hill's bill which would authorize the federal government—especially NIH—to get into the international medical research business in a big way. The House-companion to the Hill Bill, incidentally, is still tied up in the House Interstate and Foreign Commerce Committee.

CONTINUED

Sen. Estes Kefauver (D-Tenn.) charges that the National Institutes of Health has been slow and uncooperative in giving his drug hearings "information concerning the side effects of drugs, for the purposes of comparison with claims made in advertisements of the pharmaceutical houses." While NIH doesn't want to get into the drug controversy, top officials are ready to answer Kefauver if the question is raised during hearings on NIH's 1961 budget.

New York State is cracking down on drug addiction. There are an estimated 20,000 addicts in New York City alone. A series of bills just signed by Governor Rockefeller provides for: 1) compulsory detention of addicts for up to a year in state hospitals to prevent addicts from being released before they get the full benefit of treatment; 2) use of state mental hospital facilities for treatment of addicts; 3) pharmacists to identify, by source, all narcotics used by them in medications not requiring a prescription, in order to close every possible avenue to illicit distribution.

Wisconsin MDs are interested in two measures just passed. One allows patients to examine their medical records without subpoena. The second requires a premarital VD examination for women as well as men.

Why are applicants for research grants turned down? Rejection is prompt if the applicant is not considered competent or his approach to the problem is not sound, according to a survey by the House Appropriations Committee staff looking into the NIH grant program. The four top reasons for rejections: 1) project is unlikely to produce new or useful information (14 per cent); 2) applicant proposes research in an area in which he is not adequately trained (12.8 per cent); 3) research plan hasn't been carefully designed (11.8 per cent); 4) problem is more complex than realized (10.5 per cent).

A large group of Texas physicians, led by the president-elect of the Texas Medical Association, is backing Sen. Lyndon Johnson (D-Tex.) for president. The doctors came out for their fellow Texan by announcing the formation of the Texas Physicians Committee for Johnson for President, at the annual state convention in Fort Worth.

TMA president-elect, Harvey Renger emphasized that each doctor joining the Committee is acting as an individual, not as a member of the state Association. A National Physicians Committee for Johnson for President is also planned.

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With Scissors and Scalpel

TEST TUBE DECISION

Britain's House of Lords apparently is determined not to become, like its House of Commons, the test tube of parliamentary democracy.

The College of Arms has declared that babies born to the wives of peers via artificial insemination should not inherit titles of nobility.

To allow them to succeed to their peerage and sit in the House of Lords would constitute, the College said, "a fraud on the sovereignty."

PERCHANCE TO DREAM

One of the many "contributions" of the Twentieth Century is the use of sleeplessness to torture and maim the personality. Science—through the medium of "wake marathon" radio contests—has now corroborated what some nations have anticipated.

Dr. John T. Brauchi of the Oklahoma University Medical Center, Oklahoma City, reports that during a sleepless period of more than 168 hours, two contestants became delusional, hallucinatory and progressively psychotic. Unfortunately, the symptoms did not terminate after a good night's sleep. One patient, after his return to his usual job, developed the illusion that he was responsible for the Israeli-Egyptian conflict, and that he was being pursued by a female spy who was trying to get him to return to the Suez Canal zone.

A HAIRY TALE

The esthetic liabilities of a brain operation need not always undermine a woman's pride in her crowning glory.

Dr. Jonathan M. Williams of Washington, D. C., says that brain surgery can be performed without shaving the head, but only if the hair is long enough to be twisted into a number of pony tails, and only if the hair is scrupulously clean.

To avoid "the disturbance created in women when they leave the hospital with shiny tonsure," Dr. Williams has developed this procedure:

The patient should wash her hair five times with a detergent-hexachlorophene shampoo in the three to five days before surgery. After anesthesia, the hair is moistened, parted along

the line of intended incision and combed into pony tails. Ordinary non-lacquer hair spray (germ killing because of its high alcoholic content) is applied over the entire head. A gauze sponge is sewed to the scalp area to be removed, and the operation proceeds.

The technique, of course, does not apply to men, or women with cropped tresses. Comments Dr. Williams: short hair fashions certainly "work to the disadvantage of a woman with cerebellar tumor."

GETTING MARRIED—UP DATED

The much-criticized British Medical Association booklet on the art of getting married has been revised, and a new edition is about to appear. A spokesman said one of the articles which resulted in the booklet being withdrawn last year has been completely rewritten. The title, "Marrying with a Baby on the Way," has been changed to "Worth Waiting For."

PUTTING ON THE DOG

Senator Paul Douglas (D-Ill.) has charged the Administration with wanting to spend more money to house dogs and cows than to house people. Criticizing a proposed \$2 million Food and Drug Administration item for the building of tile-lined, airconditioned kennels, plus \$80,000 for housing cows, Sen. Douglas commented:

"I like cows and dogs, but I submit this is excessive . . . they are proposing more money per dog and more money per cow than it costs to house a baby."

Oddly enough, the Senator seemed not to be urging that more money be spent for people—only that less be spent for animals.

SEAL SOLACE

Scientists who recently journeyed to islands 160 miles off the Baya California coast report that the elephant seals have been eating the leaves of the Indian tobacco, a common weed on the West Coast. Scripps oceanographic scientists think that the seal, who might not be expected to include this weed in its diet, may have done so out of boredom or frustration, as "dis-

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**No one is
immune
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#1 health
problem**

**Mental illness
hospitalizes MORE
people than polio,
heart, tuberculosis,
cancer—all other
diseases combined.
Outside the hospital
1 in 10 need
psychiatric help.
Next—let's Conquer
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anorectal comfort in minutes For full symptomatic control in hemorrhoids, proctitis and pruritus *ani* start treatment with 2 Anusol-HC suppositories daily for 3 to 6 days to eliminate all inflammatory symptoms rapidly and safely. Then *maintain* lasting comfort with 1 regular Anusol suppository morning and evening and after each bowel movement. Neither product contains analgesics or narcotics, will not mask serious rectal pathology.

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With Scissors and Scalpel CONTINUED

placement activity—like the pecking of turf by gulls when their sexual activities are interrupted.”

The largest land animals in the area, however, won't eat the Indian tobacco. The goat in love, as everyone knows, will accept no substitutes.

TODT UND DAS MÄDCHEN

A group of Agriculture Department chemists believes it is hot on the trail of the eternal secret of feminine allure—among insects, at least.

The team has isolated from female gypsy moths an oily substance that is highly attractive to males. Naturally, it fluoresces a brilliant blue under ultraviolet light.

The goal of the research, however, is not entirely romantic. The team hopes it can synthesize such a substance—and lure male insects to an untimely death.

LOW LEVEL REACTION

Certain of the Indians who are born and live on the very high Alta Plano of Peru inexplicably lose their adaptation and must descend to the valley to survive.

Once there, however, they are socially ostracized by the sea-level natives—says Dr. Albert Hurtado of San Marcos University, Lima—who feel the Alta Planons have somehow lowered themselves.

BIBLE LESSON

The Illinois State Medical Society's Springfield *Newsletter* has taken biblical issue with certain opponents of the Forand bill. It comments:

“Form postcards sent to Congress and circulated by the AFL-CIO, contain the message ‘Cast me not off in the time of old age,’ based on Psalm 71:9. They would have us believe that the psalmist was advocating the paternalistic form of government, whereas David was actually asking God to be with him and give him strength to overcome his adversaries.”

The *Newsletter* quotes a better biblical note on Forand: Matthew 15:3-5, in which Jesus says it is the moral obligation of the child to care for needy parents. “Attempts to shift this responsibility from the child to the government are, of course, nothing more than a political issue.”

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Names in the News

POSTS

Dr. Kenneth M. Endicott, associate director of the National Institutes of Health; named director of the National Cancer Institute, succeeding **Dr. John R. Heller**, who recently accepted presidency of the Memorial Sloan-Kettering Cancer Center in New York City.

Dr. Nathaniel H. Cooper, appointed associate medical director of the American Heart Association. Former director of health for the Community Council of Greater New York, he is president of the National Conference for Health Council Work and serves on the governing council of the American Public Health Association.



Dr. Rachmiel Levine, professor of medicine at Chicago Medical School and chairman of the Department of Medicine at Chicago's Michael Reese Hospital; to professor and chairman of the Department of Medicine at New York Medical College; author of over 200 publications, including reports on diabetes, action of hormones and adrenal cortical function, he was the recipient of the Upjohn Scholar Award of the Endocrine Society in 1957.

Dr. H. Edwin Umbarger, microbial biochemist of the Harvard Medical School; named senior staff investigator of the Long Island Biological Association Laboratory, Cold Spring Harbor, N. Y. A winner of the Lederle Medical Faculty Award, he and his staff will work with mechanisms that regulate chemical activities in living cells.

AWARDS



To **Dr. John B. Youmans**, technical director of research in the Office of the Army Surgeon General, the Groedel Medal, the highest award of the

American College of Cardiology; for his role of coordinator of medical, dental, veterinary and allied sciences in Army medical programs; presented

at the College's annual meeting in Indianapolis on May 27.

Named American Cancer Society professors of cancer research: **Dr. Carlos Martinez**, well-known for his studies in cancer endocrinology and immunology, president of physiology, University of Minnesota Medical School; and **Dr. Vincent P. Hollander**, a steroid biochemist and professor of internal medicine at the University of Virginia Medical School.

Recipients of the 1959 Albert Lasker Medical Journalism Awards presented by the Albert and Mary Lasker Foundation: **Robert Coughlan**, for an article on world birth control, in *Life*. **Fern Marja**, for a series on mentally disturbed children in the *New York Post*; **KMOX-TV**, St. Louis, Mo., for programs on community progress in the treatment of the mentally ill; **CBS Reports**, unit of CBS News, for a program, on "The Population Explosion"; and **Dr. Howard A. Rusk**, associate editor of *The New York Times* and member of the Editorial Advisory Board of **MEDICAL WORLD NEWS**, for editorial leadership in advancing medical research and public health programs.



Dr. Louis S. Goodman, president of the American Society of Pharmacology and Experimental Therapeutics and **Herbert W. Blades**, president of Wyeth Laboratories, announce the establishment of the Torald Sollmann Award for "significant contemporary contributions to the advancement and extension of knowledge in the field of pharmacology." The award, a \$2,500 honorarium, scroll and medal, has been named for Dr. Sollmann, a Cleveland pharmacologist.

Dr. Vernon W. Lippard, dean of the Yale School of Medicine, awarded a Fellowship grant from the Commonwealth Fund to lecture, and study new developments in medical education in Europe.

OBITUARIES

Dr. Jules Freund, 69, immunologist; chief of the laboratory of immunology of the National Institutes of Health; developed new techniques of immunization against malaria; credited with "opening the door" to the development of the Salk vaccine; last September he was reported to have discovered an adjuvant for use in fighting cancer; of cancer; on April 22, in Washington, D. C.

Dr. Lewis Byrne Robinson, 74, dermatologist; member of the department of dermatology at New York's Vanderbilt Clinic, and an associated clinical professor of dermatology at Columbia University; of a heart ailment; April 24, in New York City.

Dr. Max von Laue, 80, Germany physicist; close associate of Albert Einstein and of Max Planck, developer of the "quantum theory"; received Nobel prize in 1914 for his discovery of the diffraction of x-rays by crystals; in an automobile accident; April 22, in Berlin.

Dr. Albert S. Gray, 83; headed the industrial hygiene division of the Connecticut Health Department for 22 years; chief medical officer of the State Civil Defense Office; April 22, in West Hartford, Conn.

Dr. Joseph C. Bell, 67, former president of the Radiological Society of North America and one-time staff member of New York's Presbyterian Hospital; on April 25, in Louisville, Kentucky.

Dr. Felix Kersten, 61, personal physician to Gestapo chief Heinrich Himmler; used influence over his patient to save 3,000,000 Dutchmen from deportation and 60,000 Jews from the gas chamber; moved to Sweden after World War II and became a citizen; of a heart attack; April 16, in Hamm, Germany.

in edema or

- more doctors are prescribing —
- more patients are receiving the benefits of —
- more clinical evidence exists for —



in congestive failure

"Chlorothiazide was given to 16 patients for a total of 295 patient-treatment days." "Chlorothiazide is a safe, oral diuretic with a clinical effect equal to or greater than a parenteral mercurial." Harvey, S. D. and DeGraff, A. C.: N. Y. State J. Med., 59:1769, (May 1) 1959.



in hypertension

"... our program has been one of polypharmacy in which we attempt to deplete body sodium with chlorothiazide. This drug is continued indefinitely as background medication for all antihypertensive drugs." Moyer, J. H.: Am. J. Cardiology, 3:199, (Feb.) 1959.



in premenstrual edema

"Chlorothiazide is an excellent agent for relief of swelling and breast soreness associated with the premenstrual tension syndrome, since all patients [50] with these complaints were completely relieved." Keyes, J. W. and Berlacher, F. J.: J.A.M.A., 169:109, (Jan. 10) 1959.

DOSAGE: Edema—One or two 500 mg. tablets DIURIL once or twice a day. Hypertension—One 250 mg. tablet DIURIL twice a day to one 500 mg. tablet DIURIL three times a day.

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in edema of pregnancy

"One hundred patients were treated with oral chlorothiazide." "In the presence of clinically detectable edema, the agent was universally effective." "Chlorothiazide is at present the most effective oral diuretic in pregnancy." Landesman, R., Ollstein, R. N. and Quinton, E. J.: N. Y. State J. Med., 59:66, (Jan. 1) 1959.



in cirrhosis with ascites

"All three of the patients with Laennec's cirrhosis, ascites and edema had a favorable response, with a mean weight loss of 8 lbs., during the five-day treatment period with a slight decrease in edema." Castle, C. N., Conrad, J. K. and Hecht, H. H.: Arch. Int. Med., 103:415, (March) 1959.



in renal edema

"In a study of 10 patients with the nephrotic syndrome associated with various types of renal disease, orally administered chlorothiazide was a successful, and sometimes dramatic, diuretic agent." Burch, G. E. and White, M. A., Jr.: Arch. Int. Med., 103:369, (March) 1959.



MERCK SHARP & DOHME
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Product News

PENICILLIN

Crysticillin 600 A. S. (Squibb) is the highly-regarded *Crysticillin* ready-for-use disposable syringe of procain penicillin-G. Increased in strength, however, to 600,000 units in 1.2 cc (aqueous suspension). Given by intramuscular injection, ordinarily in one dose (sometimes two) daily. While *Crysticillin* has long been one of the most desirable of penicillins, all the usual considerations concerning penicillin (such as hypersensitivity and refractory organisms) also apply.

ORAL PENICILLINS

No fewer than five new penicillins, produced by fermentation and partial synthesis, are now available: *Alpen* (Schering); *Chemipen* (Squibb); *Darcil* (Wyeth); *Maxipen* (Roerig); and *Syncillin* (Bristol), first to be marketed. All affect the same organisms as older oral penicillins and have the same indications and precautions, although allergic reaction may be somewhat lessened. All produce early peak blood levels about twice as high as equivalent doses of oral penicillin V.

NEW FORMULAS

Pentid-Sulfas for Syrup (Squibb) is penicillin and sulfonamides for oral administration as a fruit-flavored liquid appealing to children.

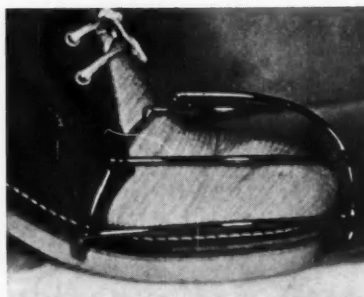
Peritrate with Phenobarbital (Warner-Chilcott) furnishes pentaerythritol tetranitrate, one of the "nitrates" regarded as useful in angina, in a b.i.d. medication containing 45 mg phenobarbital per dose.

Ser-Ap-Es (Ciba) is a mixture of *Apresoline*, *Serpasil* (reserpine) and *Esidrix* (hydrochlorothiazide), in predetermined proportions, for mild to severe grades of hypertension complicated with anxiety, impaired renal circulation and/or edema.

Strep-Districillin A. S. (Squibb) is 400,000 units of procaine penicillin-G and streptomycin 0.5 gm per 2 cc dose. An aqueous suspension for intramuscular injection. The combination of antibiotics is a rational and useful one for very serious disease. It may have

to be supplemented by additional doses of antibiotic. Every effort should be made to identify the infecting organism and the remedies maximally effective against it. Typical dosage is 2-4 i.d., continued well beyond recovery.

Bellabil (Whittier) is a mixture of bile acid and belladonna alkaloids, similar to *Dechloin with Belladonna* (Ames), with an added barbiturate. It is proposed for "biliary dyskinesia" and other gastrointestinal complaints.



FOOT GUARD

Podo-Shield (Universal Products, Beverly Hills, Calif.) fits to a cut shoe to shield forefoot following fractures, dislocations or other conditions where shoe pressure is contraindicated but forefoot must be protected. Available in three sizes to fit all shoe and foot sizes.

NEW ADDITIONS

ANTIBIOTICS: *Cosa-Tetrabon* (Pfizer) is *Cosa-Tetracycline* in orange-flavored liquid form—oral suspension and pediatric drops.

ANTICOAGULANTS: *Athrombin-K* (Purdue Frederick) is potassium of salt of warfarin. *Coumadin* (Endo) is sodium salt of warfarin tablets, 7.5 mg. *Panwarfin* (Abbott) is also sodium salt of warfarin.

LAXATIVES: *Instant Mix Metamucil* (Searle) is a psyllium-seed bulk laxative, *Metamucil* (Searle) for constipation attributed to insufficient roughage in the diet. Where *Metamucil* contains equal parts of glucose "for easy dispersion in liquid," *Instant Mix* contains NaHCO_3 , citric acid and lemon flavoring.

SULFONAMIDES: *Thiosulfil Forte* (Ayerst) is a larger (0.5 gm) tablet of sulfamethizole.

ANTIHISTAMINES: *Twiston* (McNeil) is the active isomer of *Clisten* (McNeil), hence are related as *Polaramine* and *Chlor-Trimeton* (Schering). Two mg of *Twiston* corresponds to four mg of *Clistin*.

TOPICAL PREPARATIONS: *Furacin-HC Cream* (Eaton) is a composition of *Furacin* (nitrofurazone, Eaton) 2 per cent and hydrocortisone acetate 1 per cent in a vanishing cream base.

BOOKLETS AND FILMS

Cerebral Palsy—Hope through Research, a Public Health Service pamphlet for patients, explains some known causes of the disorder, describes the main types and extent of condition and reviews helpful treatment. Written by the National Institute of Neurological Diseases and Blindness, single copies are free from Public Health Service, Washington, D. C.

The Effect of Acetylcholine, Eserine and Atropine on Human Ciliated Respiratory Epithelium, a new technical film depicting effects of acetylcholine saline and local anesthetics on ciliary movement. Also illustrates technique of obtaining epithelium biopsy and its value for pharmacological studies. Film is available on loan to the profession from Abbott Laboratories, North Chicago, Ill.

Prescription O. T., Malaria Eradication and Clinical Shock—three new films released by the Government through United World Films, New York. *Clinical Shock* shows up to date information underlying causes, symptoms and treatment of shock in cardiac cases, injury to spinal cord, various types of fractures and burns. \$49.68, \$63.88 and \$58.88 respectively.

Management of Cross-Infections in a Hospital, a new movie, features demonstration at John Sealy Hospital, Galveston, Tex. From Winthrop Labs., 1450 Broadway, New York 18.

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D NEWS



DOCTOR'S BUSINESS

Doctors blamed for rising hospital costs

New Jersey doctors are boiling at charges by a state appointed committee that they are the major reason for high hospital expenses. Said the committee: physicians "are the ones who admit the patient . . . determine how long he will stay, set the standards for the services they must have available" Retorted Dr. F. Clyde Bowers, president of the state medical society, "We are not inclined to prefer saving money to saving lives."

In neighboring New York, meanwhile, the Nassau County Medical Society has launched an experimental program "to conserve the public's health-care dollar." A key part of the plan calls for committees to be set up within the medical staffs of local hospitals. Their purpose: to see whether hospital services ordered by staff physicians were really necessary or could have been provided as effectively on an outpatient basis.

How many hours do you work?

The average physician works 50 hours or longer a week. In his most active period—usually before age 45—he is apt to work more than 60 hours. Reduction from the peak is ordinarily made deliberately when the physician is about 50—probably on the advice of *his* physician. The hardest workers—the 83,000 general practitioners—average 12 house calls a week, 24 office visits daily, and an unspecified time at clinic and hospital.

This is a thumbnail profile of the American doctor sketched for British doctors by L. W. Frohlich, head of a New York advertising agency, at the Royal Society of Medicine, in London. His main thesis: busy U. S. physicians have a tough time keeping abreast; hence, pharmaceutical houses allot large budgets to various methods of communication. Finally, says adman Frohlich, his survey shows that 84 per cent of American doctors believe the pharmaceutical industry has established "a mutually beneficial relationship with physicians."

The best disability plan?

Many medical and specialty societies have obtained group disability insurance for their members. But the American College of Radiology says it now has "the best plan available to American physicians." Under revised schedules that have just gone into effect, College members under 50 will get a 40 per cent increase in weekly benefits; those 50 to 59, 20 per cent more—at no additional premium cost.

CONTINUED

**Car buyers:
a compact item**

Detroit's compact cars aren't small enough by European standards: they cost \$500 to \$700 more, burn 40 per cent more gas, are less maneuverable than the best foreign economy models. On the other hand, the American compacts are usually easier and cheaper to repair, pack more weight (an advantage in a collision) and deliver more power with less shifting. And compared with "low-priced" U.S. standard cars, the compacts are easier to handle and park, less burdened with expensive extras, cheaper to buy (by \$200 to \$500) and run an extra ten miles a gallon on regular gas.

If you've resisted the small-car urge so far, you may as well wait for the 1961 models: the "Big Three" is trying to get the bugs out of its first efforts, Rambler plans radical style changes and Chrysler, Oldsmobile, Buick, Pontiac and perhaps even Cadillac will soon enter the compact field. By next year Ford may bring out the first real U.S. economy car, a four-cylinder, front-wheel-drive model.

**All work,
no play?**

Behind the pediatrician's sweet smile lies the grim knowledge that life isn't all lollipops and Salk shots. A recent national survey shows that one out of every four pediatricians is unhappy with the financial return for his long working hours, years of training and degree of specialization. In addition, 20 per cent of those surveyed say that they have no time for their families and friends; 10 per cent complain that their hours are too long and exhausting; another 10 per cent say they have to see too many patients to make a living; and 18 per cent think that the public hasn't been educated to appreciate the modern pediatrician.

**Warning to
fee-padders**

Doctors who hike their fees when they learn a patient has health insurance may soon feel that everybody's against them. The AMA, in a recent leaflet distributed widely to the public and press, says, "Your own physician through the American Medical Association is on record opposing increasing professional fees just because people have insurance coverage," and invites anyone interested to write for the 1958 House of Delegates' statement on the subject.

**Short-range
jets coming**

By next year you'll be able to fly by jet even if your airport doesn't have jet-size runways. French-built Caravelles, cruising at 530 mph and suited to trips of 200 to 1,400 miles, will be serviced in the United States by Douglas Aircraft. The Caravelle's two jet engines are mounted *behind* passengers on the fuselage near the tail—a factor that Douglas claims provides "the quietest cabin today."

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May 20, 1960

*Announcing
a new
high-performance penicillin molecule*

TABLETS
DARCIL*

*Penicillin-152 Potassium
phenethicillin potassium, Wyeth*

DARCIL is a new, synthetically produced, oral penicillin which is highly stable in acid solution. Efficiently absorbed from the gastrointestinal tract, it yields rapid, high penicillin serum concentrations. In equivalent dosage, urinary excretion is approximately twice that of potassium penicillin V.

DARCIL is similar to other penicillins in its *in vitro* antibacterial spectrum—but *appears to be more lethal to clinical isolates of certain strains of staphylococci resistant to natural penicillins.*

DARCIL is well tolerated and has the advantage of greater safety by virtue of its effectiveness on oral administration.

Supplied: DARCIL Tablets; scored; 250 mg. (400,000 units), vials of 36.

Further information on prescribing and administering DARCIL is available on request.

Wyeth Laboratories

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*provides an added measure of assurance for the physician
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A Century of Service to Medicine

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Editor's Choice

ATRESIA PROCESS LATE IN FETAL LIFE

Evidence gleaned from 12 cases of meconium ileus associated with intestinal atresia places the atresia process relatively late in fetal life after intestinal patency has been established, and there seems to be justification for regarding many of these newborns as cases of fibrocystic disease until that diagnosis can be excluded. Three examples of incomplete luminal obliteration, with the frequent finding of meconium granulomas and peritoneal scarring, suggest that the reaction to extravasated meconium is one of the most important factors in the process, and the nine cases of complete obliteration emphasize the predominance of this feature. Retention in the small intestine of light meconium lacking bile pigment suggests that these children pass no meconium even early in fetal life and there is a relatively frequent occurrence of liver lesions in this group of newborns. *Bernstein, Vawter, Harris, Young and Hillman, Boston, J. Dis. Child., May, pp. 80-94*

BLADDER RHYTHMICITY NON-NEUROGENIC

Cystometric studies on human subjects under the effects of spinal anesthesia and ganglionic blockade showed that two properties of the bladder—tonus and rhythmic contractions in response to filling—reside in the bladder itself and are not neurogenic in origin. This had previously been shown true of the cat by the more drastic, if more conclusive, procedure of severing all known bladder nerve connections.

These findings contrast with the generally accepted fact that micturition and the sensations accompanying filling are mediated by the central nervous system. In two subjects the bladder was distended to a point where rhythmic contractions and tonus were markedly diminished and were absent on subsequent filling. It is postulated that local changes in the bladder—a decrease in contractions due to obstructive distention or an increase due to cystitis (as observed in cats)—may thus markedly alter the threshold for micturition. Once distention and infection have altered the physical properties of the bladder, it is almost impossible to distinguish cystometrically between neurogenic and non-neurogenic

disturbances of micturition. First steps should be directed at correcting abnormalities in the bladder wall itself before bladder "retraining" is attempted after neurological disease. *Plum, Seattle, Neurology, May, pp. 11-17*

EXPLANATION OFFERED FOR LOW AChE IN PNH CELLS

The subnormal acetylcholinesterase (AChE) activity in erythrocytes of patients with paroxysmal nocturnal hemoglobinuria (PNH) is to our knowledge the only enzyme defect so far observed in these red cells. In this study of 12 PNH patients, subnormal erythrocyte AChE activity was found in ten. The enzyme defect was just as evident in immature cells as in mature ones, although normally AChE activity of reticulocytes is three times as great as that of mature erythrocytes. It appears unlikely that PNH cells differ significantly from normal cells in AChE activator or inhibitor content. The most attractive explanation for the low AChE activity in PNH cells is a decreased enzyme or protein synthesis at the site of red cell production. *Auditore, Hartmann, Flexner and Balchum, Nashville, Tenn., Pathology, May, pp. 51-59*

CAUTION SUGGESTED ON DIGITALIS DOSAGE

Digitalis intoxication is as old as the drug's clinical use and with the longer life span of cardiac patients today, its diagnosis is being made more frequently. Anorexia, nausea and cardiac irregularities remain the most frequent symptoms. Almost any type of arrhythmia and conduction defect may occur, the most common being ventricular premature contractions and first degree A-V block. The next most common sign of toxicity is increased severity of the congestive failure, dangerously deceptive if the physician, not recognizing it as such, gives more digitalis. Digitalis leaf is most often the responsible preparation, followed by digitoxin. Even an average maintenance dose of the leaf (0.1 gm daily) or a maintenance dose of 0.2 mg daily of digitoxin may produce intoxication. Each patient has an individual need, to be determined by continued and careful clinical and electrocardiographic observation. *Appelman, Brooklyn, N. Y., Am. Pract., May, pp. 36-37*

NEW FINDINGS ON STAPHYLOCOCCUS AUREUS

Staphylococcus aureus is almost always the etiologic agent in postoperative eye infections. To determine if specific types are responsible, 4,087 strains have been phage-typed from 287 patients with acute or chronic staphylococcal eye infections and 238 controls with noninfected eyes. In spite of the large number of possible phage types, usually only one type was recovered from any individual's eyes, whether infected or noninfected. This single strain, usually present in the contiguous areas as well, could persist for as long as 15 months, even in the face of local antibiotic treatment. In some people a new type—but still a single type—replaced the previous strain after weeks or months.

From our results, the answer to our main question is entirely negative: the phage types in infected eyes showed the same wide variation characteristic of those isolated from normal eyes, with no relation between phage type and severity or type of infection. This similarity in distribution suggests that ocular infections are produced by an organism normally present when resistance of local tissues has been weakened by trauma, infected contiguous areas, asthenopia or fatigue. *Locatcher-Khorazo and Gutierrez, New York, Ophthalmology, May, pp. 28-41*

ANTIBIOTICS vs. RESPIRATORY INFECTIONS

Previous studies of chemoprophylaxis during respiratory infections have been based on hospital admissions, with contradictory results. In this study of 845 cases—45 per cent of all acute respiratory illnesses which I saw during a seven month period—was carried out in a private pediatric practice to evaluate the role of antimicrobial therapy in preventing complications. All patients over two months of age with suspected viral respiratory infections were committed by random selection to one of three therapeutic programs: full therapeutic dosage (usually of a tetracycline or sulfanamide), "prophylactic" dosage or symptomatic treatment. No difference in frequency of complications was found among the three treatment programs; nor was sex, age or family

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size an influence. The results indicate that administration of antimicrobial agents, even in therapeutic dosage, will not significantly reduce the incidence

of complications in viral respiratory illnesses. *Townsend, Rochester, N. Y., Journal of Diseases of Children, May, pp. 14-21*

PHYSICIAN'S CHOICE: GRISEOFULVIN

Since the Gentles report (August, 1958) on the successful use of oral griseofulvin in guinea pigs experimentally infected with ringworm, a massive amount of case material on griseofulvin therapy in human dermatophytic infections has been accumulated — enough to warrant its own international symposium in Miami in October, 1959, where Dr. A. M. Kligman confessed, "we're all pretty well griseofulvinized." The May issue of *Dermatology* is entirely devoted to the Florida symposium. The following are abstracts of three of the papers.

TREATMENT OF DEEP MYCOSES DESCRIBED

As deep mycoses are frequent in Mexico, we decided to study their response to griseofulvin therapy in spite of unencouraging *in vitro* observations. Nineteen patients have been treated with daily doses of 1-2 gm in adults, less in children, for 1-6 months. With eight cases of mycetoma, we had two "clinical cures," and observed an initial improvement in others without bone lesions. With bone involvement the response, as expected, has not been satisfactory. The good results in eight cases of sporotrichosis surprised us: four "clinical cures" and in others evident clearing of primary lesions as well as lymphangitic nodules after a few days of therapy. *Latapi, Mexico City, Dermatology, May, pp. 197-204*

THERAPY FOR MINOR FUNGUS INFECTIONS

Last January we were confronted with an outbreak of tinea capitis among child patients in a tuberculosis hospital. As almost the only possible way to contain the outbreak, we administered griseofulvin to the 11 infected children in divided doses of 750 mg daily for three weeks, with an apparent cure in each instance and with no observable effect upon the course of the tuberculosis. We have now treated

123 patients, including 32 with various concurrent systemic diseases and 43 with cutaneous lesions involving altered keratinization. Our clinical results were similar to others reported: clearing of fungus infections of the glabrous skin after 7-14 days of therapy with 1 gm daily in divided doses, with few side effects, none severe. *Lazar and Rattner, Chicago, Dermatology, May, pp. 219-221*

EFFECT CITED ON TRICHOPHYTON INFECTIONS

Griseofulvin is described as fungistatic, not fungicidal, and the aim of this study was to note in what way a correlation of the clinicomycological events occurring in the skin following its administration could explain the drug's effectiveness. Twenty-two cases of *Trichophyton rubrum* and six of *Trichophyton violaceum* were treated. Initial clinical improvement in all cases occurred dramatically at all dosage schedules: 5, 7, 10 mg/lb. per day, but it is our impression that at least four weeks on 10 mg/lb. daily is best for skin infections, and a longer administration for hair and nail infections. The unchanged nutritional status and pathogenicity of isolates obtained during griseofulvin therapy show that the fungi are not affected biologically. The immediate clinical response to treatment coincides with the breaking of the hyphae into swollen bits with a "faviform" appearance, with subsequent production of budding and non-budding spores. Clinical recurrences were characterized by reappearance of active growth of the mycelial phase. Recurrences in five out of 11 patients showing faviform hyphae and large spores indicate this is an attenuated form of the organism capable of reactivating the disease, or a "resistant" form brought about either by insufficient dosage or abnormal keratinization. *Desai, Bombay, India, Dermatology, May, pp. 205-214*

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ACKNOWLEDGMENTS: Cover, Kay Harris; 7 Ted Russell; 14, 15 Ted Russell; 21, 22, 23 Robert Phillips; 20 Hal Phyfe; 17 Ted Russell; 18, 19 Kay Harris; 39 New York Times, Arthur Avedon, U. S. Army Photographic Service; 48 Joseph Merante

SENATOR KEFAUVER AND THE DRUG INVESTIGATION



Morris Fishbein, M.D.

Although I have not yet read the complete text of the hearings of the Kefauver committee which is investigating the manufacture, distribution and use of drugs in the United States, and although a number of important witnesses are still to be called, it appears that the pharmaceutical manufacturers have had few opportunities to present industry's side of the story. A few disgruntled employees who were involved in some small area of the industry have spoken for the entire field. Most of the physicians who have testified have conspicuously been inadequately informed on questions relating to the industry.

Perhaps the most belabored question concerns the amount of money spent in advertising and promotion, whether by the use of detail men, exhibits before medical societies, advertising in medical periodicals or the circulation of brochures and announcements directly by mail.

REAL EXPERTS NEEDED

Thus far no representatives of a pharmaceutical advertising agency, no director of professional services in a pharmaceutical house, no general practitioner who is a leader in that field—not one expert in any of the primary areas devoted to advertising or to education of physicians in the use of the newer remedies—has given testimony.

The Pure Food and Drug Act requires clinical evidence of the use of new remedies before they are offered to the medical profession. Physicians, both general practitioners and specialists, in and out of hospitals, are given opportunity to test these drugs and to report their observations to the manufacturer. Often these observations are published in medical journals. However, until the manufacturer accumulates and disseminates the evidence, the average physician has little knowledge of the product. Thus, all methods

of promotion aid the physician in keeping abreast of progress.

Some objection has also been made to the distribution by manufacturers, of samples and various novelties, such as brief cases, pillows, thermometers and other devices to gain the interest or good will of physicians. Yet this cost is actually trifling compared to the enormous amount of money spent in selling a motor car, a sewing machine or a typewriter. Compare the cost of selling drugs with the reported bonus offer of \$50,000 by NBC to any one of its time salesmen who secures a sponsor for the Republican or Democratic conventions.

Fortunately, Senator Kefauver has not been privileged to question and investigate entirely without interference. Several senators on the committee have recognized the political motivation behind these investigations and have taken steps to thwart abuse of the hearings for political advantage.

When the complete text of the testimony becomes available, a careful analysis may show certain facts that need to be carefully analyzed with a view to gaining a few suggestions that would be for the good of the public. Thus far, however, the mass of the news from this senatorial hearing has only led to distrust of pharmacy and of the medical profession. Breaking down the confidence that both pharmacy and medicine need in order to secure the best possible results in their work for prevention and healing of disease, is far too great a price to pay for this microscopic return. The methods of conducting a hearing that were used by Senator Kefauver in his investigations of gangsterdom are an insult to one of America's greatest industries and to the majority of members of several learned professions.

Morris Fishbein

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